Trout Lake Forest
Independent Forest Audit
2004-2009
Final Report

FORESTRY CONSULTANTS INC.

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1.0 EXECUTIVE SUMMARY

This report, for the Trout Lake Forest, documents the results of an Independent Forest Audit (IFA) conducted by KBM Forestry Consultants Inc. (KBM). The Trout Lake Forest audit covers the five-year period April 1, 2004 to March 31, 2009 and addresses the implementation of the 2004-2009 Forest Management Plan (FMP) for the Trout Lake Forest from April 1, 2004 through March 31, 2009 as well as planning and approval of the 2009-2019 FMP.

The Trout Lake Forest is managed under Sustainable Forest Licence (SFL) #542461 held by Domtar Pulp and Paper Products Inc. (Domtar). As holder of the SFL, Domtar is responsible for all aspects of forest management planning, harvesting, reforestation, and monitoring. The licence requires that Domtar carry out renewal and maintenance activities necessary to provide for the long-term sustainability of the Crown forest in the Trout Lake Forest. Domtar's corporate administration of the Forest is conducted from two office locations; administrative functions are conducted from the Dryden Woodlands Office, while operational activities associated with the implementation of the forest management plan are conducted from the Ear Falls Office. The principal auditees are both Domtar and the Red Lake District Office of the Ontario Ministry of Natural Resources (MNR).

The Trout Lake Forest lies entirely within the Boreal Forest Region and exceeds one million hectares in size (including water). The Forest is dominated by conifer forest types; 85% of the Crown productive forest is occupied by conifer forest types while 12.5% are mixedwood types and only 2.5% are hardwoods types.

The Trout Lake Forest and the nearby Wabigoon Forest are the primary sources of roundwood and chip fibre for Domtar's Dryden mill facility. The Domtar sawmill located in the community of Ear Falls receives the majority of timber from the Trout Lake Forest. Ear Falls is home to 1,153 people with a labour force of 715. As a town, Ear Falls is approximately 30 times more dependent on the forest industry than the provincial average.

The Forest is at the recognized southern edge of continuously occupied caribou range in northwestern Ontario. The management actions employed in this forest are important for maintaining range occupancy of caribou in this zone. Since 1994, management strategies have been in place to provide a continuous supply of connected habitat for caribou in large patches in the Trout Lake Forest.

The audit included a review of all documents associated with forest management of the Trout Lake Forest during the audit term. From records associated with all sites on which forest management activities occurred during the period under audit, 35 sites were randomly selected by the audit team for examination in the field for the assessment of activities associated with forestry. Selected sites were examined over a two-day period using a helicopter or vehicles for access. Interviews were held with persons and groups involved with or impacted by forest management on the Forest during the term of the audit. Input from the public was solicited through advertisements in newspapers, and a one-page survey that was mailed to all businesses and organizations, and a representative sample of one-third of the individuals listed in the FMP mailing list (as provided by MNR Red Lake District). The survey was also available to the general public on the KBM website (www.kbm.on.ca).

IFAs are guided by a set of eight guiding principles as described in the Independent Forest Audit Process and Protocol. Recommendations arise from audit team observations of material non-conformances, or may be developed to address situations in which the audit team identifies a significant lack of effectiveness in forest management activities. Based on the audit, 20 recommendations were made. Recommendations directed at issues which relate to MNR corporate responsibilities are listed separately from those addressed to Domtar and or Red Lake District MNR.

The most significant findings of this audit are described below. Collectively, the more significant operational concerns were found to have arisen from operations conducted during the latter 18 months of the audit period. Operations in the early part of the audit period were exemplary. In the view of the audit team, the concerns do not compromise forest sustainability and that on balance the company is meeting its license obligations. The report contains recommendations to address these concerns.

- The lack of endorsement from the Local Citizens Committee of the 2009-2019 FMP and the ten individual environmental assessment requests initiated by members of the public are indicative of long standing problems that are yet to be resolved, even with the proper execution of the FMPM issue resolution process. Early plan renewal is recommended as a means to deal with the problems, specifically to address a) comprehensive road planning; b) enhanced spatial planning that considers a fluid caribou mosaic using a suite of forecasting and analysis tools; and, c) enhanced stakeholder engagement.

- Bypass of merchantable timber was noted at a number of blocks. Significant bypass of accessible merchantable timber could compromise plan objectives related to future forest condition, wildlife habitat, and productivity. Bypass should be minimized and limited to areas that are truly inoperable or where harvest would disturb advanced forest regeneration.

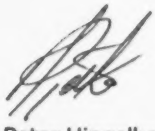
- Excessive site disturbance was noted in several harvest blocks. A recommendation is provided with regards to identifying sites/conditions susceptible to disturbance and reducing occurrences of site disturbance.

- Utilization viewed during the audit was excellent for the first three to four years of the audit term. Unfavourable conifer pulp markets gradually lead to the phasing out of in-bush chipping in favour of round wood operations with restrictive specifications. At sites where only round wood was removed, large amounts of wood fibre, including merchantable pieces beyond the round wood cut and oversized wood, was left at roadside as slash. Most hardwoods were also left standing at these sites.

- A number of compliance problems were found. Although Domtar's strategic compliance plan in the 2004-2024 FMP is thorough and well written, and would have allowed for a sufficient assessment of compliance and effectiveness of operations for the affected period, it was not followed in a number of respects.

- The audit team found that important spatial tracking information that would aid in reporting on clearcut progress and the implication to future caribou habitat was lacking. This concern was further emphasized by the amount of bypass viewed in harvest blocks and the inability to track whether or not planned spatial configurations were being achieved.

In general, the team concludes that management of the Trout Lake Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Domtar Pulp and Paper Products Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #542461 for a further five years.



Peter Higgelke, R.P.F.
Lead Auditor, on behalf of the audit team

2.0 TABLE OF RECOMMENDATIONS

Recommendation on Licence Extension
The team concludes that management of the Trout Lake Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Domtar Pulp and Paper Products Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #542461 for a further five years.
Recommendations Directed to SFL Holder / MNR District
Recommendation 1: MNR District must ensure that the LCC Terms of Reference are updated to meet the content requirements of the FMPM.
Recommendation 2: The audit team recommends that a joint MNR and Company team be created to consider the following elements in preparation of the Year Three Annual Report to determine if early plan renewal is warranted: i) implications of IEA request conditions; ii) consider the merits of enhanced spatial planning (e.g. PATCHWORKS) to assess if mitigation of conflicting values by adjusting the caribou mosaic is possible; iii) complete a comprehensive road planning exercise consistent with the life cycle of the mosaic and the intent of the caribou guidelines; and, iv) consider enhanced stakeholder engagement.
Recommendation 3: Domtar must ensure that a more thorough analysis and discussion is provided in the next FMP regarding any age-class substitution or under-allocation. The analysis and discussion should focus on the affect on plan objectives, future wildlife habitat and sustainability.
Recommendation 4: Domtar must amend the 2009-2019 FMP to include consistent and clear utilization direction. Furthermore, if a change to utilization standards occurs, the FMP must be amended appropriately.
Recommendation 5: Domtar must ensure that bypass of merchantable timber is limited to those areas that are needed to meet regulatory requirements, are truly inoperable or where harvest would overly disturb forest regeneration.
Recommendation 6: Domtar must ensure that sufficient large-diameter trees are retained in harvested areas to meet NDPEG requirements.
Recommendation 7: Domtar and District MNR must develop and implement a strategy to address the waste of merchantable wood on the Forest. The strategy must be amended to the 2009-2019 FMP.
Recommendation 8: Domtar must be more diligent in identifying sensitive sites/conditions and in reducing site disturbance on the Forest.
Recommendation 9: Domtar must ensure that loss of productive land is minimized through treatment of slash material and chipper debris.
Recommendation 10: Domtar must ensure that water crossing WC6 in Block T101 is repaired to meet the Environmental Guidelines for Access Roads and Water Crossings.
Recommendation 11: Domtar must ensure that adequate drainage pipes are properly installed and maintained to permit unimpeded water flow.
Recommendation 12: Domtar must ensure that all aggregate pits are properly rehabilitated during periods of inactivity.
Recommendation 13: District MNR must ensure that the minutes of LCC meetings are maintained in a manner that ensures they are accurate and readily accessible.

Recommendation 14: Domtar and MNR compliance inspectors must cooperatively resolve inconsistencies in compliance interpretation and must report all non-conformances including wasteful practices and excessive site disturbance.
Recommendation 16: Domtar must meet compliance monitoring requirements on the Trout Lake Forest including following the Compliance Plan, completing thorough reports that are submitted on time, using block suspensions when required and using appropriate methods for completing reports.
Recommendation 17: Domtar must ensure that all free-to-grow surveys conducted during the term are submitted to the MNR and reported in the annual reports.
Recommendation 18: Domtar Senior Management and District MNR must determine why annual reports still contain inaccuracies and ensure that future annual reporting is complete, accurate, and understandable.
Recommendation 19: Domtar and MNR District must ensure that enhanced Annual Reports meet all of the requirements of the FMPM.
Recommendations Directed to Corporate MNR
Recommendation 15: Corporate MNR must look at offering varied compliance inspection training options to allow for timely training of all parties required to have certified inspectors.
Recommendation 20: Corporate MNR must consider mechanisms to report spatially on planned vs actual caribou block harvest achievement.

3.0 INTRODUCTION

3.1 Audit Process

Independent Forest Audits (IFAs) are a requirement of the *Crown Forest Sustainability Act (S.O. 1994, c. 25)* (CFSA) and the Forest Management Class Environmental Assessment on Crown Lands in Ontario. Every forest management unit in Ontario must be audited by an independent party at least once every five years.

KBM Forestry Consultants Inc. conducted an independent forest audit on the Trout Lake Forest for the five-year period April 1, 2004 to March 31, 2009. The audit assesses the implementation of the 2004-2024 Forest Management Plan (FMP) and the planning process and approval of the 2009-2019 FMP. The on-site portion of the audit occurred from June 21 to 26, 2009 inclusive with document examination and interviews taking place prior and subsequent to this period.

The Independent Forest Audit Process and Protocol (IFAPP) was developed by MNR to provide a comprehensive and consistent method of evaluating forest management activities on Crown land. The IFAPP states that the purpose of an IFA is to:

- Assess compliance with the Forest Management Planning Manual (FMPM) and the CFSA;
- Assess compliance of forest management activities with the FMPM, forest management plan(s) and the CFSA;
- Compare planned versus actual forest management activities;
- Assess the effectiveness of forest management activities in meeting forest management objectives;
- Assess the effectiveness of any action plans resulting from previous audits; and
- Assess a licensee's compliance with the terms and conditions of the Sustainable Forest Licence (SFL).

The IFAPP provides a comprehensive and consistent method of evaluating forest management activities on Crown land. It serves as a framework to provide a structured approach to evaluating whether or not forest management activities meet the requirements governing forestry practices on Crown land in

Ontario. More detailed information on the audit process is provided in Appendix 4. Audit team members and their qualifications are presented in Appendix 6.

The Trout Lake Forest is managed under SFL #542461 held by Domtar Pulp and Paper Products Inc. (Domtar). Throughout this audit report, reference to "the company" also refers to Domtar. As the managers of the Trout Lake Forest, the principal auditees are both Domtar and the Red Lake District Office of the Ontario Ministry of Natural Resources (MNR). Other auditees include contractors and other branches of MNR to the extent that forest management activities carried out by them are the subject of audit examination.

3.2 Management Unit Description

The following description of the Forest is based primarily on material included in the 2009-2019 FMP for the Trout Lake Forest.

The Trout Lake Forest is located entirely within the Red Lake District, in the Northwest Region of the MNR. The Forest is administered as the Red Lake South Area from the Red Lake District MNR Office. Domtar's corporate administration of the Forest is conducted from two office locations; administrative functions are conducted from the Dryden Woodlands Office, while operational activities associated with the implementation of the forest management plan are conducted from the Ear Falls Office. MNR is responsible for the approval of land and resource-use decisions pertaining to the Forest.

The location of the Trout Lake Forest and its proximity to MNR districts and areas within the Northwest Region is illustrated in Figure 1. This figure also illustrates the Trout Lake Forest boundaries, wood receiving mill locations, administrative boundaries, and the locations of company and MNR administrative offices.

As holder of the Sustainable Forest License Domtar is responsible for all aspects of forest management planning, harvesting, reforestation, and monitoring. The licence requires that Domtar carry out renewal and maintenance activities necessary to provide for the long-term sustainability of the Crown forest in the Trout Lake Forest. Management of the Forest was previously administered by Weyerhaeuser Company Limited; Avenor Inc. Dryden Holdings; Avenor Inc.; Canadian Pacific Forest Products Ltd.; Great Lakes Forest Products Ltd.; Reed Paper Ltd.; and the Dryden Paper Company Limited.

Primary access to the Trout Lake Forest is provided by Highway 105, north from Vermilion Bay on the TransCanada Highway. Other main access roads include the Nungesser Road, which heads north from Red Lake, and the South Bay Road, which heads north and east from Ear Falls to the abandoned South Bay Mine site. The Vermilion River Road provides a link for the communities of Ear Falls and Sioux Lookout on the north side of Lac Seul. During the past 25 years, primary access development has occurred to the southern and eastern portions of the Trout Lake Forest while access development to the northern portion of the forest is ongoing.

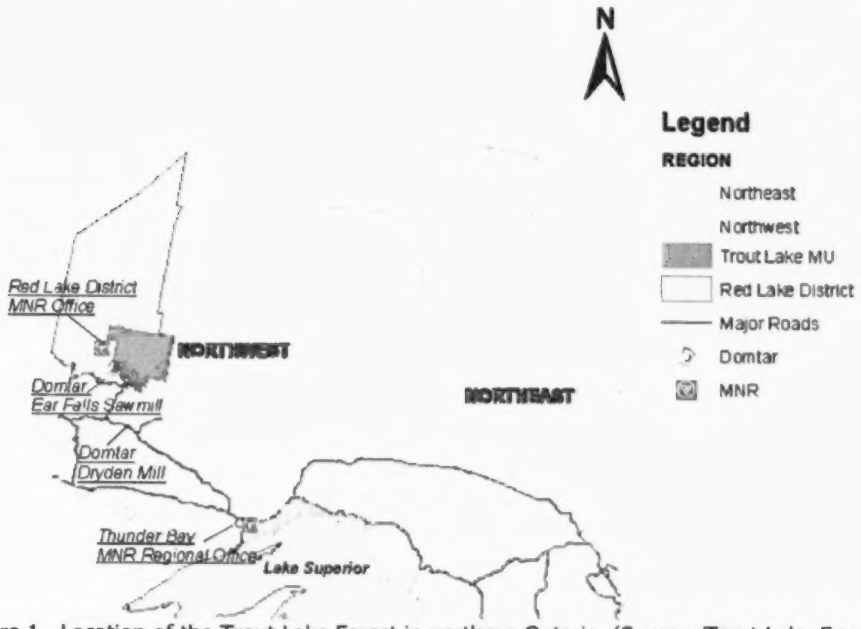


Figure 1. Location of the Trout Lake Forest in northern Ontario. (Source: Trout Lake Forest 2009-2019 FMP)

The Trout Lake Forest lies entirely within the Boreal Forest Region. The Forest is dominated by conifer forest types; 85% of the Crown productive forest is occupied by conifer forest types while 12.5% are mixedwood types and only 2.5% are hardwoods types. Coniferous trees, mostly spruce with some jack pine are characteristic of the area, in association with trembling aspen and white birch. Very small pockets of red pine and white pine occur, and to a limited extent larch is present. On upland sand flats in the north of the unit, jack pine stands prevail, usually originated from wild fire. On clay sites in the southern portion of the unit, mixed woods stands of trembling aspen, balsam fir, white birch, spruce and pine are common. On low lying sites throughout the management unit, black spruce stands predominate. Some sites support typical bog vegetation such as sphagnum moss, Labrador tea, herbaceous species, grasses and sedges. Other fresh sites support pockets of larch trees. Well-drained sites with coarse soils, such as moraines and bedrock ridges, often support jack pine.

Caribou and moose have a long history in the Trout Lake Forest and vicinity, and they remain there still, according to MNR, at relatively stable densities. MNR moose survey data suggest that moose density is lowest in the northeastern portion of the Forest. The Trout Lake Forest is currently at the recognized southern edge of continuously occupied caribou range in northwestern Ontario. The management actions employed in this forest are important for maintaining range occupancy of caribou in this zone. Since 1994, management strategies have been in place to provide a continuous supply of connected habitat for caribou in large patches in the Trout Lake Forest. Deer are a relatively recent arrival in the Trout Lake Forest, but were noted in the area in the 1940s, 1950s, and in 1960. They have moved northward and back south again in response to changing weather conditions in the region. MNR suggests that deer have been increasing recently.

Aboriginal communities that are influenced by the Trout Lake Forest include Lac Seul First Nation, Wabauskang First Nation, Cat Lake First Nation, Slate Falls Nation and Pikangikum First Nation. There are no Aboriginal communities located within the boundaries of the Trout Lake Forest.

The Trout Lake Forest and the nearby Wabigoon Forest are the primary sources of roundwood and chip fibre for Domtar's Dryden mill facility. The Domtar sawmill located in the community of Ear Falls receives the majority of timber from the Trout Lake Forest. Ear Falls is home to 1,153 people with a labour force

of 715 (2006 Census of Population data from Statistics Canada). As a town, Ear Falls is approximately 30 times more dependent on the forest industry than the provincial average.

3.3 Current Issues

For inclusion in the Audit Plan (as High Priority Aspects) and prior to the on-site portion of the audit, discussions were held with representatives of Domtar and the Red Lake MNR to identify current issues for forest management on the Trout Lake Forest. LCC input was requested at a meeting on May 4, 2009 in Red Lake (see Appendix 4). The following three issues were identified:

1. Stakeholder Relations

   Increased conflicts with stakeholders have arisen in recent years over the effects of forestry activities on the Trout Lake Forest. MNR perceives three likely causes for the increase:
   a. increased volume demand from the forest
   b. operations focussed in high density tourism areas
   c. the company has adopted a tougher negotiating stance with stakeholders due to adverse market conditions which has resulted in a perceived lack of continuity in understandings reached between the parties from one plan to the next

   The conflicts led to requests for Individual Environmental Assessments which resulted in delays to field operations. The general erosion of goodwill between the company and stakeholders will make it more difficult to resolve future issues.

2. Silviculture Program

   Two general concerns here:
   a. the level of silviculture expenditures has dropped significantly in recent years
   b. recent issues regarding the renewal trust account balance has MNR concerned about the company's ability to fulfill obligations

3. Caribou Guideline Implementation

   Three aspects of caribou guideline implementation have led to conflicts on the Trout Lake Forest:
   a. implementation of road use strategies where physical removal is warranted
   b. concern about effectiveness of silviculture with respect to future caribou habitat (i.e. active measures to reduce hardwood component)
   c. application of caribou mosaic creates conflicts with trappers (i.e. mosaic blocks are larger than trap line areas)

Additionally, the audit team identified a number of challenges to forest management on the Trout Lake Forest including:

- Caribou identified as threatened under the *Endangered Species Act (S.O. 2007, c. 6)*.
- Demand for traditional forest products has dropped and a world wide financial crisis has devastated the forest industry to a level not seen since the great depression. The revenue stream from the forest industry is vital to both local economies and the basic delivery of Ontario's forest management program on the Trout Lake Forest.
- The 2009-2019 FMP coincides with full allocation of remaining area in A blocks defined by the caribou mosaic forcing operations into formerly remote areas used by tourism and trapping interests.
- Competing and conflicting interests in road use.
- Stakeholder relations: SFL holder has changed hands several times over the last 20 years. Licensees are large publicly traded companies headquartered in distant cities. Staff turnover is high. Some attempts to change AOC prescriptions between plans without stakeholder

consultation was reported. These factors impact upon relationships with stakeholders and their perceptions about motives and commitment.

3.4 Summary of Consultation and Input to Audit

Several means of engaging consultation for the audit were used. KBM mailed letters to numerous parties advising of the audit and inviting their input. Mail-outs included a one-page survey to solicit public input to the audit process. The survey was also available to the general public on the KBM website (www.kbm.on.ca). The lead auditor attended an LCC meeting in early May, 2009 to discuss the audit and any concerns the LCC members might have about management of the Forest.

Newspaper ads were published in two area newspapers prior to the pre-audit meeting advising the public of the upcoming audit, identifying the purpose of the audit and inviting the public to submit comments to the LCC Chair or directly to KBM.

KBM sent a letter to each of the Aboriginal communities on the MNR contact list inviting their participation in the IFA for the Trout Lake Forest. The letter requested their input and encouraged them to contact KBM if they wish to participate in the audit or if they require more information before making a decision. KBM also offered to arrange in-person meetings with each of these Aboriginal Communities. Follow-up phone calls were made when necessary to encourage a response.

KBM developed a questionnaire that was circulated to planning team members to assess their perceptions regarding the effectiveness of the planning process. The results of the survey provided additional focus to IFAPP prescribed interview procedures.

A more detailed description of consultation and input to the audit is included in Appendix 4.

4.0 AUDIT FINDINGS

4.1 Commitment

The commitment principle is deemed to be met since Domtar controlled forest activities on the Trout Lake Forest are certified under the Canadian Standards Association (CSA) certification standard under certificate number CERT-0022599.

4.2 Public Consultation and Aboriginal Involvement

The evidence found through the review of planning documents, interviews with stakeholders and questionnaire responses revealed that the requirements for public consultation were met with one exception. A review of the LCC Terms of Reference (updated December 2006) found it to not meet specific content requirements of the 2004 FMPM. See Appendix 1 for a fuller discussion.

Recommendation 1: MNR District must ensure that the LCC Terms of Reference are updated to meet the content requirements of the FMPM.

Despite fulfilling FMPM obligations for public consultation, the outcome was not entirely satisfactory in the eyes of several stakeholders. Since this concern is intertwined with a number of other factors, it is discussed further in Section 4.3.

Although no Aboriginal communities are located on the Trout Lake Forest, five Aboriginal communities are influenced by it. All five communities were included in FMP mailings, invitations and consultations as required with one, Lac Seul First Nation, participating as a member of the FMP planning team. None of the communities requested a separate consultation approach.

4.3 Forest Management Planning

The 2004-2005 Contingency Plan was prepared due to a delay in plan approval and according the requirements of the 1996 FMPM. The principle cause was a delay associated with approving a planning inventory. Changes in map projections, a new FRI, and the development of GIS capacity within MNR complicated the development of a planning inventory during this period across Northwestern Ontario. Although the Red Lake District elected to develop a contingency plan as a delay in plan approval, other Districts decided that the contingency plans were due to a delay in plan preparation. The distinction may appear subtle but there is a large difference in workload between a contingency plan associated with a delay in plan preparation (essentially a "mini FMP") compared to one associated with a delay in plan approval (an expanded Annual Work Schedule (AWS)). The approach taken by Red Lake District is one of several examples where the MNR works with the SFL holder to rationalize the workload.

The 2009-2019 FMP was professionally prepared and generally met FMPM requirements. There were some delays in plan preparation caused by both the SFL (e.g. changes in AOCs from previous plans and mapping quality issues) and the MNR (review times and NDPEG assessments). Although these delays were not significant enough to warrant a contingency plan, they did compromise the process to a limited degree.

During the February 2009 meeting of the LCC a motion "That the LCC is in agreement with the 2009-2019 Forest Management Plan for the Trout Lake Forest." was not supported by the majority. This is an unusual situation for a plan to be carried forward this far and fail to gain the support of the LCC. The MNR District Manager noted that the motion may have carried if more members had attended the meeting. Nonetheless, the approval process was contentious as evidenced by ten individual environmental assessment (IEA) requests following plan approval and interviews with stakeholders.

The completion and approval of the plan under the challenging circumstances described in Section 3.3 of this report is no small feat notwithstanding the controversy. The audit team cites the following key success factors:

- MNR staff exhibit low turnover and high levels of professionalism.
- Domtar staff is also experienced and dedicated professionals.
- MNR planning and support system is robust.
- MNR and SFL have a good working relationship.

There are areas for improvement in preparing the next FMP:

- For the 2009-2019 FMP, the LTMD checkpoint was delayed by several months due to long standing differences in forest values and use patterns. The lack of LCC endorsement of the plan and ten IEA requests are indicative of long standing problems that are yet to be resolved even with the proper execution of the FMPM issue resolution process.

- Caribou conservation measures (i.e. caribou mosaic) were found to be at odds with interests of local trappers and tourism operators. In addition, there are conflicting forest access issues where residents of the area want road access maintained contrary to caribou conservation and remote based tourism needs. It may be possible to see alternative caribou mosaic patterns if forest change simulators are used for this purpose (e.g. patchworks).

- Stakeholder engagement, although consistent with the FMPM during the development of the 2009-2019 FMP, is not as effective as it could be. Road planning met FMPM requirements but failed to provide a longer term use strategy that properly informs the public and better conforms to the caribou guidelines.

- Although the FMPM was adhered to, the process has lead to a plan that appears to be ecologically viable and economically feasible but may not be entirely socially acceptable. It may

be necessary to consider additional measures beyond the FMPM or to modify the approach for engaging stakeholders in the development of the next FMP.

Under the *Endangered Species Act (S.O. 2007, c. 6)* a caribou conservation plan has been recently released. This plan calls for the review of currently approved management plans and may require early plan renewal for the Trout Lake Forest.

Given these concerns and the release of the Caribou Conservation Plan the following recommendation is made.

Recommendation 2: The audit team recommends that a joint MNR and Company team be created to consider the following elements in preparation of the Year Three Annual Report to determine if early plan renewal is warranted: i) implications of IEA request conditions; ii) consider the merits of enhanced spatial planning (e.g. PATCHWORKS) to assess if mitigation of conflicting values by adjusting the caribou mosaic is possible; iii) complete a comprehensive road planning exercise consistent with the life cycle of the mosaic and the intent of the caribou guidelines; and, iv) consider enhanced stakeholder engagement.

The descriptions of geology and soils in the 2009-2019 FMP was found to be excellent but failed to describe the implications for forest management as per the 2004 FMPM. The audit team suggests that Domtar and MNR District amend the 2009-2019 FMP for the Trout Lake Forest to describe the implications of geology and soils on forest management.

Domtar's information and technology group based in Timmins, aided by local Domtar staff, completed planning inventory updates for use in the 2009-2019 FMP. The inventory checkpoint was met on September 26, 2006 and did not delay plan development. The inventory update included a joint survey of areas classified at the time as barren and scattered (B&S); following the survey a component of B&S was re-classified as treed muskeg. The inventory was kept current through annual depletion mapping using digital supplementary aerial photography and through accruing areas declared free-to-grow (FTG) as a result of completed surveys.

Documentation in the 2009-2019 FMP regarding the planning inventory update and classification of lands by land ownership and land types was well done and thorough including a good analysis of changes since the 2004-2024 FMP. One minor issue was noted regarding the required planning inventory update documentation – Supplementary Documentation 8 notes that the inventory was revised based on "Domtar knowledge" but this is not discussed in the FMP. Domtar staff indicated that this revision was the correction of age class issues detected in the original FRI submission.

The 2009-2019 FMP contains all required elements related to eligibility and selection criteria, contingency area, bridging, salvage, planned harvest, and monitoring by MNR and Domtar. These sections for the most part were well written and informative. However, there were a few subjects that required further analysis and discussion and utilization information in the FMP is cursory, inconsistent and unclear. Two recommendations are made below.

It was noted that, on average, the 2009-2019 FMP selected harvest area included younger stands than those selected by the model. This is common in Ontario but according to the 2004-2024 FMP this was not supposed to occur since younger stands were chosen for that plan. Discussion with MNR and Domtar staff and a review of the inventory and selected harvest areas indicates that changes to the caribou mosaic and new reserves accounted for most of the age-class substitution that occurred in the 2009-2019 FMP. Areas not allocated in the 2009-2019 FMP also led to age-class substitution (i.e. some of the older wood in the model was actually in slivers and geographically isolated areas). These factors also led to an under allocation in the 2009-2019 FMP; under-allocation is discussed below.

Since selecting younger stands was a concern highlighted in the 2004-2024 FMP, some discussion in the 2009-2019 FMP of why older stands could not be selected is warranted.

There is very little discussion regarding the significant planned under-allocation (about 6,365 ha or 8% of the AHA) during the term. This level of under-allocation warranted an in-depth analysis of the affect on plan objectives, future wildlife habitat and sustainability with a detailed discussion of the results of the analysis in the FMP. Planning for surplus area or discussion in the FMP of why that would not be deemed necessary should also have occurred.

Recommendation 3: Domtar must ensure that a more thorough analysis and discussion is provided in the next FMP regarding any age-class substitution or under-allocation. The analysis and discussion should focus on the affect on plan objectives, future wildlife habitat and sustainability.

A component of the under-allocation was due to small stands (slivers) and geographically isolated stands that could not be feasibly harvested. The 2004-2024 FMP also noted issues with slivers, etc. and suggested that these areas be reviewed and appropriately reclassified in the inventory as unavailable to remove this source of error. More time should be taken to identify and re-classify slivers and other unattainable areas during development of the next planning inventory.

Utilization direction in the 2009-2019 FMP is contradictory and unclear – "*The company intends to utilize all available merchantable live trees from allocated stands.*" versus "*It is the company's intent to retain incidental species, such as cedar, on site during harvest operations unless it occurs in marketable patches and is of suitable quality and size to permit harvest*". The 2004-2024 FMP has similar contradictory wording regarding utilization.

Consistent and clear utilization direction in the FMP is particularly important for compliance monitoring during plan implementation. Compliance should be gauged against the FMP first and the Scaling Manual when clear direction is not provided in the FMP. This allows for the provision of local standards in the FMP based on market conditions, etc. A recommendation is provided to clarify utilization in the 2009-2019 FMP.

Recommendation 4: Domtar must amend the 2009-2019 FMP to include consistent and clear utilization direction. Furthermore, if a change to utilization standards occurs, the FMP must be amended appropriately.

The forecasts of stumpage and renewal revenues and renewal expenditures in the 2009-2019 FMP (Table FMP-24) were reviewed to assess alignment with the management strategy outlined in the FMP and the proposed renewal operations (Table FMP-21). Actual renewal rates used during the audit term were also reviewed. Forecast renewal and tending operations were found to be consistent with the management strategy outlined in the FMP. The forecast Forest Renewal Trust (FRT) softwood renewal rate was found to be 59% higher than the average actual rate used during the 2004-2009 plan term; forecast FRT revenues in Table FMP-24 are supposed to be based on the renewal rate in effect at the time of plan preparation. Adjusting the forecast FRT funding in the 2009-2019 FMP based on actual renewal rates in place during 2008-2009 would lead to a 29% shortfall compared to projected expenditures.

Domtar staff noted that renewal rates were reduced during the audit term due to surplus funding in the FRT account (i.e. above the required minimum balance). Review of the FRT account verified a downward trend in the account's balance throughout the term. Unfortunately, in January, 2009 the FRT balance dipped significantly below the minimum balance and the company replenished the funds balance with a one time lump sum payment. The renewal rates used in the forecast of FRT revenue provide an important benchmark in the setting of a renewal rate that will ensure the execution of a silvicultural program consistent with the selected management alternative (SMA). The MNR should make sure that the renewal rate is set to a level which ensures the account balance does not fall below the minimum balance and that silvicultural expenditures are sufficient to meet the SMA.

Specific FRT expenditures were also reviewed. Forecasted funding for site preparation was found to be inadequate to satisfy the selected management alternative and forecasts of planned site preparation in Table FMP-21. In addition, forecasted Forestry Futures Trust Fund (FFTF) expenditures were found to be 95% higher than the previous term forecasts ($10,700,00 2009-2019 FMP vs. $523,000 2004-2009 FMP) and only 2% of the expenditures had been approved; forecast FFTF expenditures funding in Table FMP-21 is only supposed to list approved projects (pg. B-97, lines 51-52, 2004 FMPM). Subsequent FMP submissions should be carefully reviewed by MNR staff so as to ensure that forecasts of renewal revenue and expenditures are consistent with the requirements of the FMPM and the SMA and that adequate explanation is provided in the text of the plan should any deviations occur.

A selection of annual work schedules were reviewed by the audit team and were found to have met the requirements of the applicable FMPM and were consistent with the FMP. Organization of the electronic files that form part of each AWS improved over the audit term.

There were 48 administrative amendments to the 2004-2024 FMP. A selection of amendments were reviewed by the audit team and it was determined that amendment classifications were appropriate and consistent with the FMP objectives.

4.4 Plan Assessment and Implementation

The 2004-2024 and 2009-2019 FMPs provide a thorough description of the Trout Lake Forest geology, soils, sites and other features and required inventory parameters are well documented or otherwise updated as necessary through formal and informal surveys and assessments, supplemental aerial imagery, and public input. One issue noted by Domtar is that in some areas with low relief, a significant number of upland spruce stands are thought to be typed as lowland spruce. There are also many fine textured sites that may not be appropriately classified. This could lead to site disturbance issues if prescriptions/operations are not properly adjusted. Site disturbance was noted as an issue in this audit and is discussed later in this section.

Areas of Concern

The audit included examination of a number of field stops with a range of AOC prescriptions including some to protect water quality, fisheries on cool and cold water systems, remote tourism values, moose aquatic feeding areas, etc. Examination of the AOCs at these sites demonstrated that AOC prescriptions applied adequate protection of the value(s) in question and were consistent with the relevant FMP and AWS. AOC boundary control was excellent with no deviations from planned AOC prescriptions seen. No AOC infractions were found in Forest Operations Inspection Reports (FOIRs) for the sampled areas.

Harvest

A variety of sites were viewed including exposed bedrock, coarse sandy to fine textured soils, and lowlands. Pre-harvest forest types included conifer-dominated, hardwood and conifer mixed woods, and hardwood dominated stands. Harvest operations were audited for each of the contractors that worked on the Forest during the audit term, across all seasons and included full tree to roadside and some cut-to-length operations. Roadside operations included round wood processing, chipping, and a pulpwood trial at one block. Salvage of blown down timber was also viewed.

According to compliance records, there were few trespasses during the term. This was confirmed during the audit - block boundaries followed FMP/AWS mapping and good cut block boundary control was viewed. However, bypass of merchantable timber, mainly low-lying areas fringing upland areas, was noted at a number of blocks. Conversely, appropriate bypass was noted at one block where under story conifer now dominates.

Although small amounts of bypass due to operability are common on most forest management areas in Ontario, significant bypass of accessible merchantable timber could compromise plan objectives related to future forest condition, wildlife habitat, and productivity and should be reduced on the Forest. Bypass also puts additional pressure on finding new areas to harvest.

Recommendation 5: Domtar must ensure that bypass of merchantable timber is limited to those areas that are needed to meet regulatory requirements, are truly inoperable or where harvest would overly disturb forest regeneration.

Snag retention was variable; 25 trees per hectare were generally retained but retention of six large-diameter wildlife trees was often not achieved. On two audit stops, larger stems had been left at roadside as unutilized trees while the harvest block lacked sufficient large-diameter residual trees to meet natural disturbance pattern emulation guideline (NDPEG) requirements.

Recommendation 6: Domtar must ensure that sufficient large-diameter trees are retained in harvested areas to meet NDPEG requirements.

Utilization viewed during the audit was excellent for the first three to four years of the audit term. This was accomplished through full utilization of conifer and hardwood round wood and pulp between 2004 and 2006 when more favourable markets existed. When conifer pulp markets became difficult in 2006, excellent utilization was extended for approximately 18 months through the adoption of a tops (including merchantable material beyond the round wood cut) and oversized wood chipping operation. Unfortunately, tops and hardwood full tree chipping was phased out during the final two years of the audit term - prohibitive cost and lack of markets was cited by Domtar. This led to removal of round wood only, mainly to the Ear Falls mill, which is set up to receive eight-foot long pieces to a maximum diameter of 18 inches. At sites where only round wood was removed, large amounts of wood fibre, including merchantable pieces beyond the round wood cut and oversized wood, was left at roadside as slash. Most hardwoods were also left standing at these sites.

According to ministry and company compliance reports, the merchantable pieces being left behind on these sites, which range from a few inches to under eight feet, are not identified as a compliance issue because they are not marketable due to their length, but this is a systematic wasteful practice. The public resource must not be wasted due to local reliance on a mill that has wood length and girth limitations and a recommendation is made. Compliance monitoring short-comings are discussed in Section 4.6.

Recommendation 7: Domtar and District MNR must develop and implement a strategy to address the waste of merchantable wood on the Forest. The strategy must be amended to the 2009-2019 FMP.

Stranded wood was found during the audit in block 121. Domtar staff noted that some compliance monitoring during the audit term, including block completion reports, was completed using supplemental aerial photography (SAP). While SAP can be very useful for determining block boundaries and other compliance functions, locating stray wood and other wasteful practices is not feasible. This is discussed further as part of Recommendation 16 in the monitoring section.

Based on the considerable experience of the auditors, excessive site disturbance was noted during the audit at five blocks. Disturbance consisted of rutting of saturated fine-textured soils over significant portions of stands during harvesting operations. Domtar staff remarked that there were some wet summers and warm winters that contributed to site disturbance during the audit term. It was also noted that union agreements may have had an affect through restricting equipment movements and ensuring work regardless of conditions. Although the audit sample suggested otherwise, site disturbance was not found through compliance monitoring by ministry or company inspectors to be a common issue; this is discussed in Section 4.6.

Recommendation 8: Domtar must be more diligent in identifying sensitive sites/conditions and in reducing site disturbance on the Forest.

Salvage of blow down area during the audit term was well done although site disturbance was an issue in this area.

Silviculture

Slash management viewed during the term mirrored the wood processing systems described above. The areas where full utilization occurred resulted in small slash piles that were normally piled and burned and therefore affected negligible productive area; this was considered very good implementation. Conversely, the large amount of slash being left in more recent blocks where only conifer round wood is removed will be difficult to manage. A similar concern was found with chipper debris generated from in-bush chipping operations. The majority of sites with chipper debris had no remedial treatment. Some chipper debris pads within areas prescribed to site preparation were found to have been power disk trenched and planted, however this was not done on a consistent basis. Untreated slash and chipper debris is affecting significant amounts of productive land and is otherwise cause for negative public comments.

Recommendation 9: Domtar must ensure that loss of productive land is minimized through treatment of slash material and chipper debris.

The locations of renewal operations were consistent with the areas in the approved FMP and AWS. Renewal treatments were found to be consistent with the forest operation prescription (FOP) which was found to be appropriate for the site conditions for each block. FOPs were approved by a registered professional forester (RPF) and 'silviculture pre-work' reports were completed with the silvicultural contractor prior to operation start.

Power disc trenching was the primary method of site preparation. Excellent block coverage was noted and site preparation treatments provided sufficient available micro-sites for planting and aerial seeding.

For tree planting, seedling species and micro-site selection was appropriate for the sites viewed. Wider spacing of jack pine (2.5 m) was noted on sites treated later in the term. Domtar contends that this was done due largely to account for high levels of ingress found in older plantations. Increased jack pine ingress was noted on many of the sites viewed during the field audit; however, this was not manifested uniformly on all areas which were planted with jack pine. Two missed pockets (less than one ha each) were noted during the field examination; however, quality assessment records indicated that all of the target quality specifications were met during the term. The 'quality assessment records' consist of the quality check plots done by the contractor and the company. Plot data clearly indicated that planting quality was consistent with the company specifications and above the minimum for payment. Company specifications were reviewed and found to be suitable for renewal of the sites viewed as part of the audit.

Aerially seeded sites were found to have sufficient seed germination in addition to moderate to high levels of natural ingress. Exceptions to the *Silvicultural Guide for Managing for Black Spruce, Jack Pine, and Aspen on Boreal Ecosites in Ontario* (1997) for Jack Pine seeding were examined. These areas did show suitable jack pine germination; however, tending would likely be required to control competing vegetation on sites with finer textured soils. Domtar has an excellent system in place for the monitoring of silvicultural exceptions and identifying requirements for follow-up tending.

Areas prescribed for natural regeneration were found to be suitable for the prescription, exhibiting stocking levels and species composition consistent with the silvicultural ground rule (SGR). It was noted that the renewal of some of the areas left for natural was not being declared in the annual reports within the two year maximum allowable timeframe required by the FMPM. The 2007-2008 Annual Report explains that *'areas declared in the remaining years of the FMP will increase as field visits are completed*

and additional natural regeneration is observed'. Domtar contends that they wanted to ensure that stocking levels were consistent with the targets set in the SGR prior to declaring the renewal of these areas. Once an area is declared as being naturally regenerated the company is unable to retract those areas should species and stocking levels fall short of the SGR targets and the implementation of artificial renewal treatments is required.

Domtar should undertake an evaluation of areas prescribed for natural during the term so that they can be declared as being regenerated and an accurate ratio of renewal intensity can be determined.

During the 2004-2009 plan term 25% (2,754 ha) of the planned area for chemical tending was treated. When adjusted to the actual cut level the pro-rated amount of chemical tending is 37% of the planned. The significant shortfall of actual area chemically tended in comparison to the planned levels does raise some concerns with the company's ability to maintain a zero net gain of hardwood within the Caribou management zone.

Domtar contends that the reduced levels of chemical tending during the term are due to targeting only areas that require vegetation control, moving away from the common practice of broadcast spraying entire blocks. The company surveyed 85% (6,295 ha) of the planned area for spray (pro-rated to actual cut) to assess required follow up treatment for vegetation control. Only portions of the blocks requiring vegetation management were treated with 44% of the areas surveyed being sprayed during the term. The targeted use of chemical on the landscape is commendable; however the effectiveness of this strategy to meet the silvicultural standards of the Caribou Guidelines remains to be seen. It is suggested that the company and the MNR carefully monitor data from regenerating stands to forecast the probable forest unit trajectory and determine if a net gain of hardwood on the forest is occurring.

The pre-commercial thinning of juvenile jack pine stands did not occur during the 2004-2009 plan term. The company contends that the deviation from the planned 493 ha of manual tending during the term was due in part to not being able to benefit from shorter stand rotations due to long term harvest deferral under the Caribou Management guidelines. This however was not explained in the annual reports nor was it mentioned in the plan text.

Access

A selection of road construction and maintenance activities as well as water crossing installations was viewed, as was a sample of road construction and maintenance funded through the Road Construction and Maintenance Agreement. Road construction and maintenance and water crossing installations that were examined had been completed as planned.

Water crossing installations were generally passable although improvements could easily be made – short pipes, marginal sloping, sloped road approaches to crossings. All aspects of water crossings installations should always be met.

In particular, one water crossing installation exhibited several problems. Crossing WC6 in Block T101 had long, fill slope not sloped to a stable angle of repose caused by using a culvert that is too short, inadequate riprap and sloped road approaches to the crossings that had no means to divert water from the road surface. To minimize risk of water crossing failure this crossing requires reparation.

Recommendation 10: Domtar must ensure that water crossing WC6 in Block T101 is repaired to meet the *Environmental Guidelines for Access Roads and Water Crossings.*

Ponding along tertiary roads was found in a number of blocks where drainage pipes had either not been installed or had been improperly installed. In some instances, flooding had occurred resulting in mortality to flora. A recommendation is provided to address this concern.

Recommendation 11: Domtar must ensure that adequate drainage pipes are properly installed and maintained to permit unimpeded water flow.

The audit team examined several Category 9 and 14 aggregate pits for conformance with the *Aggregate Resources Act (S.O. 1990, c. A.8)*. Several pits did not meet standards outlined in the Act, specifically rehabilitation sloping during periods of inactivity.

Recommendation 12: Domtar must ensure that all aggregate pits are properly rehabilitated during periods of inactivity.

4.5 System Support

Although the Forest is well managed by competent staff, the audit team found that staff numbers remain low. Domtar has made repeated attempts to recruit additional staff. These recruitment efforts have helped replace key individuals but have not changed the overall staffing situation. At the time of the audit, forest operations had been suspended, effectively negating the need for additional staff until the resumption of operations. The company is encouraged to continue its recruitment efforts.

The IFAPP requires auditors to review the LCC meeting minutes as part of the audit process to aid in evaluating the effectiveness of the LCC in meeting its roles and responsibilities as outlined in the FMPM. Red Lake MNR District took a number of weeks to deliver the LCC minutes to the audit team.

Recommendation 13: District MNR must ensure that the minutes of LCC meetings are maintained in a manner that ensures they are accurate and readily accessible.

4.6 Monitoring

Compliance

Domtar met compliance planning requirements for the period under audit including Strategic Compliance Plans and an Annual Compliance Schedule of Action for each AWS. The Strategic Compliance Plans contain all required components and are otherwise comprehensive and well written. The Annual Compliance Schedule of Action is a quarterly projection list of activities by area name and contractor.

Domtar has a comprehensive internal compliance prevention/education program including formal standard operating procedures (SOP) for activities that occur on the Forest (e.g. for soil conservation, site preparation, timber harvesting). The SOPs are an integral component of Domtar's environmental management system (EMS). All operators complete thorough annual EMS training that focuses on new regulations or requirements. In addition, pre-work meetings are conducted between Domtar and contracting staff that include start-up instructions and detailed maps for road building, harvesting, silviculture, etc. This documentation is well organized by Domtar through the use of block numbers.

During the audit term Domtar inspectors were responsible for completing all compliance reports on the Forest. All Domtar compliance inspectors were certified by spring 2005 and the FOIP program was available and was used by Domtar staff during the audit term. MNR certified inspectors also completed compliance inspections and reports on a sub-set of activities completed during the audit term.

Table 1 outlines compliance monitoring completed by Domtar and MNR during the audit term and rates of non-conformance (note that FOIP values were used in the table as there were discrepancies in annual report values – see next section). The report total values in Table 1 include about 43 joint inspections that were completed during the audit term.

Non-compliance during the term generally consisted of harvesting and access issues such as not meeting snag tree requirements, harvesting without authority, small trespasses, poor sediment control, culvert

installation problems, and installing crossings without approval. MNR also noted one case of excessive site disturbance (rutting) during the term. Based on the field audit, the company has worked to improve many of these operations however, as discussed in Section 4.4 and below, there are still issues on the Forest.

Table 1. Summary of compliance monitoring.

Year	MNR Red Lake District			Domtar		
	# of Reports	NC	Percent NC	# of Reports	NC	Percent NC
2004-05	47	8	17	151	0	0
2005-06	56	4	7	98	3	3
2006-07	41	2	5	126	2	2
2007-08	39	7	18	61	1	2
2008-09	52	1	2	124	3	2
Total	235	22	9	560	9	2

NC = non-compliance

MNR certified inspectors completed sufficient numbers of compliance reports to meet its compliance targets commitments during the audit term. These reports were generally detailed and included useful digital images. MNR felt that Domtar reports completed at the beginning of the audit term lacked the required detail and company inspectors were requested to improve reports; MNR noted that improvement did occur. A review of company reports confirmed the improvement.

MNR expressed concern that Domtar inspectors sometimes reported non-compliances as being compliant or 'in compliance with comments'. The differing non-compliance rates between MNR and Domtar during the audit term (Table 1) substantiate MNR concerns. Inconsistent compliance interpretation was also noted as a finding in the 1999-2004 IFA but no recommendation was given at the time as it was believed that "*...when Company and MNR staff complete the same mandatory compliance training in 2005 the potential for differences in assessing the seriousness of infractions will be reduced.*" Unfortunately, mandatory training has not led to standard interpretation. In addition, as discussed in Section 4.4, some cases of obvious non-compliances, specifically wasteful practices and excessive site disturbance, were overlooked by MNR and Domtar compliance inspectors during the audit term. Thus, a recommendation is provided to resolve inconsistencies and to report on all non-conformances.

Recommendation 14: Domtar and MNR compliance inspectors must cooperatively resolve inconsistencies in compliance interpretation and must report all non-conformances including wasteful practices and excessive site disturbance.

In the 2009-2019 Compliance Plan contractors are identified as responsible for compliance inspections on their operations (self-inspection is now a component of contractor contracts) while Domtar is to provide an oversight role by checking and verifying FOIP reports and through independent reporting and providing training to contractors. However, there has been difficulty in retaining a certified inspector for all contractors. As a result, at the time of the audit, only the main contractor has a committed inspector that completes inspections and submits hard copy to Domtar for checking, verification, inputting, and submission to MNR. Domtar inspectors generally complete inspections for the other operators. It is expected that all contractors will be able to do this all of this work in the future and Domtar will audit and oversee the compliance program as per the Compliance Plan.

It was noted during the audit that Domtar had wanted to get a new staff member certified this year but that no MNR compliance course was being provided. According to MNR, low interest and a number of recent and planned changes to the compliance program were reasons for not providing a training course this year. MNR also noted that the program is run through 'cost recovery' and requires 15-20 applicants regionally, per session, to be feasible.

Recommendation 15: Corporate MNR must look at offering varied compliance inspection training options to allow for timely training of all parties required to have certified inspectors.

Although Domtar's strategic compliance plan in the 2004-2024 FMP is thorough and well written, and would have allowed for a sufficient assessment of compliance and effectiveness of operations for the affected period, it was not followed in a number of respects. For example, Domtar was to complete and submit to MNR a report if operations were shut down for more than three weeks; this was not done and compliance for block suspension was rarely reported during the term.

Domtar did not meet the reporting timelines for many FOIP submissions and otherwise fell behind in actual levels of compliance monitoring. According to Domtar and MNR staff at one point during the audit term there was over 100 reports outstanding. To date, Domtar has completed most of the outstanding compliance reports but, as discussed in Section 4.4, the methodology used to complete some of the reporting was questionable (i.e. using supplemental aerial photography for final block inspections).

The compliance monitoring issues noted above led to the following recommendation.

Recommendation 16: Domtar must meet compliance monitoring requirements on the Trout Lake Forest including following the Compliance Plan, completing thorough reports that are submitted on time, using block suspensions when required and using appropriate methods for completing reports.

Silviculture

The requirement to monitor silvicultural ground rule exceptions was satisfied by Domtar's regeneration survey program which is conducted four years post harvest. The amount of areas surveyed four years post harvest was found to be consistent with area depletions four years prior. Domtar has implemented an excellent system of monitoring regenerating stands which clearly identifies stand species composition, stocking levels and requirements for remedial treatments.

Free-to-grow assessments were done throughout the term with the majority of the surveys done in the fall of 2008. Only 2,243 ha of FTG assessments were reported in the annual reports (2004 and 2005) with a reported regeneration success of 100% and silvicultural success of 60%. Regeneration success refers to a developing stand meeting the standards of an SGR other than the one originally associated with that stand. Silvicultural success refers to a developing stand meeting all of the criteria of the SGR originally associated with that stand. The regeneration and silvicultural success of areas surveyed in 2006 and 2008 was not available as these areas have yet to be declared in the annual reports. A thorough assessment of Domtar's ability to satisfy the silvicultural standards of the SFL (Section 16.0) requires that all of the FTG survey data be considered. The majority of the FTG areas viewed during the field audit consisted of areas surveyed during 2008. All of the areas viewed were considered a regeneration success with the majority of the stands meeting the targets of the intended SGR.

A total of 3,666 ha of FTG was surveyed in 2006 and 13,715 ha was surveyed in the fall of 2008. Areas surveyed in 2006 were submitted and spot checked by the MNR (2007 SEM report). At the time of the audit, areas surveyed in 2008 were not yet submitted to the MNR nor has the information been used to update the FRI.

The 2004-2024 FMP forecasts 8,534 ha of FTG assessments. Timeframes to reach free-to-grow standards set in the SGR were extended in that plan from seven to ten years. The previous IFA identified a backlog of areas requiring FTG assessment (8,679 ha). A total of 19,624 ha have been surveyed during the term however, only 11% of those areas have been declared in the annual reports.

Recommendation 17: Domtar must ensure that all free-to-grow surveys conducted during the term are submitted to the MNR and reported in the annual reports.

Annual Reports

Annual Reports completed during the audit term did not meet all requirements and were otherwise not carefuily prepared or reviewed. Reports included little trends discussion, obvious 'cut and paste' errors where the previous year's information was not updated and several errors between text and associated tables and within tables.

The 1999-2004 IFA also noted issues with annual reporting and provided a recommendation (#9) to ensure reports were complete, accurate and understandable. Five action items were created to deal with that recommendation and the action item status report indicates completion of the action items – the audit team disagrees with this assessment. Recommendation #9 from the 1999-2004 IFA is re-worded and re-directed in this audit to emphasize the fact that annual reporting is still sub-standard.

Recommendation 18: Domtar Senior Management and District MNR must determine why annual reports still contain inaccuracies and ensure that future annual reporting is complete, accurate, and understandable.

4.7 Achievement of Management Objectives and Sustainability

Year 10 Annual Report

The 2003-2004 annual report for the Trout Lake Forest was prepared to report on the activities carried out between April 1, 2003 and March 31, 2004 as well those for the Year Ten Annual Report (AR) as described in the phase-in requirements of the 2004 FMPM. Only limited Year Ten AR phase-in requirements were directed at annual reports prepared for this year; the majority of the Year Ten AR requirements followed direction for the Report of Past Forest Operations preparation in the 1996 FMPM.

Direction provided in 2004 to SFL holders and MNR District staff by Corporate MNR regarding Year Ten AR preparation was considered in the assessment of this component of the 2003-2004 Annual Report. The audit team found significant shortcomings in the content and quality of the report. The quality of the report is especially troubling since this was a concern of the previous IFA that led to a recommendation. MNR should not have accepted this report.

Recommendation 19: Domtar and MNR District must ensure that enhanced Annual Reports meet all of the requirements of the FMPM.

Table AR-3 (Annual Report of Planned Clearcuts) includes a column entitled "Remarks on Progress" to provide comment on the many clearcut blocks listed as planned to be cut during the term but were either not cut, or only partially cut. This represents the only mechanism for reporting on clearcuts and raises an important concept regarding clearcuts within the range of woodland caribou, particularly in this audit where excessive bypass was a concern of the audit team. Bypassed areas within caribou blocks present an additional concern related to potential alteration of the spatial configuration of caribou blocks from what was planned. For example, bypass could significantly reduce block size or increase fragmentation and linear edge, thus compromising the development of future caribou habitat.

Although Table AR-3 provides a mechanism to report aspatially on clearcut progress, there are spatial characteristics when planning caribou blocks that form important components of caribou habitat. Spatial analysis of planned and actual clearcuts warrants careful consideration for a species designated as "threatened" by the *Endangered Species Act (S.O. 2007 c. 6)*.

Recommendation 20: Corporate MNR must consider mechanisms to report spatially on planned vs actual caribou block harvest achievement.

Achievement of Management Objectives

The 2004 FMPM requires that FMPs contain objectives related to (a) forest diversity; (b) social and economic matters; (c) the provision of forest cover for those values which are dependent on forest cover; and (d) silviculture objectives for the harvest, renewal and tending of the Crown forest. The 2004-2009 Trout Lake Forest FMP contains a suite of objectives as required. Appendix 2 contains a table presenting each objective with an assessment by the audit team of objective achievement. A summary of Appendix 2 is provided below.

The FMP contains six objectives related to forest diversity objectives of which two were considered to be met and the remaining four were partially met. Market conditions have caused a level of under harvest on the Trout Lake Forest that has compromised the achievement of several management objectives for the 2004-2009 FMP. Bypass seen in several harvest blocks furthers the lack of objective achievement.

Seven objectives in the FMP were related to social and economic matters – six were considered met and one partially met. In addition to not achieving planned harvest levels, the audit team saw evidence of reduced attention to minimizing loss of productive area (treating slash and chipper piles and reforesting redundant tertiary roads and landings inside harvest blocks).

The FMP contained no specific objectives related to the provision of forest cover. Rather, the planning team decided that the objectives related to forest diversity (objectives 1-6) would serve for the provision of forest cover for any natural or environmental functions, and that objectives 7 through 13 (social and economic matters) would serve for the provision of forest cover for social and economic benefits.

One silvicultural objective was contained in the FMP. Although the objective speaks to implementing the planned harvest levels, its primary focus is to direct necessary silviculture effort at renewing harvested areas. The objective was considered to have been met.

Trend Analysis Report

As part of the Independent Forest Audit, a Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report (TAR) was required to be completed by Domtar for the Trout Lake Forest. The TAR covered three FMPs; 1994-1999, 1999-2004, and 2004-2009. Reporting requirements for the TAR were met.

Although the Total Production Forest area remained relatively stable over the 15-year period, increasing from 727,550 ha to 738,361 ha, the TAR describes several significant changes that counteract one another (e.g. reduction of 83,751 ha through Ontario Lands for Life; addition of 24,989 ha with inclusion of Lac Seul shoreline).

Barren and scattered/not sufficiently regenerated (B&S/NSR) area reduced significantly from 54,499 ha to 23,946 ha through a reclassification exercise that separated true barren and scattered from "*...recent depletions that may or may not have received silvicultural treatment prior to the start of this (2004-2009) FMP.*" Areas that had or were scheduled to receive silvicultural treatment prior to the start of the 2004-2009 FMP were re-categorized into projected forest units.

Harvest volume data for the period showed an increase in annualized planned volumes (m^3/yr) from 705,220 to 1,144,266 between the first two FMPs to 1,076,886 for the 2004-2009 FMP (see Table 2). Annualized actual harvest levels increased across all three plans and utilization of planned volume levels moved from 66% to 63% to 75%. The audit team expects that the latter figures will change with lower actual volumes for the 2008-2009 period as operations on the Trout Lake Forest had been suspended for some time during that period. While planned volumes per hectare showed some variability, actual harvest remained fairly consistent over the 15-year period.

Table 2. Annualized planned and actual harvest levels over three FMPs.

	Planned			Actual		
	1994-1999	**1999-2004**	**2004-2009**	**1994-1999**	**1999-2004**	**2004-2009**
Volume (m^3)	702,220	1,144,266	1,076,887	460,500	717,934	806,625
Harvest Area (ha)	4,079	7,236	8,070	3,072	5,218	5,587
Harvest (m^3/ha)	172	158	133	150	138	144

The Summary Report of Renewal, Tending, and Protection Operations includes figures describing regeneration treatments over the term of the TAR. Trends show that silvicultural intensity increased between the first two terms and then decreased from 1999-2004 to 2004-2009. The percent of natural regeneration decreased from 18% to 12% between the first two FMPs and has increased to 20% for the first four years of the 2004-2009 FMP, as illustrated by the percent of actual artificial regeneration over total even-aged management figures for the three periods.

For the reporting of Harvested Area Successfully Regenerated, the TAR showed that a total area of 16,415 ha had been harvested in the 1994-1999 period with 15,496 ha (94.9%) being deemed successfully regenerated.

The TAR describes that the 1994-1999 harvest was 44.3% jack pine dominant, 38.9% black spruce dominant, and 16.8% poplar dominant while the regenerated stands from the FTG surveys were classified as 64.4% jack pine working group, 25.2% spruce working group, and 10.4% poplar working group. The conversion of spruce and poplar to jack pine was described in positive note in that it "*...may actually mirror a natural trend that would occur after fire...*" and that this "*...species conversion also supports (future) caribou habitat...*" The audit team agrees.

Forest units were not consistent over the three terms. The 1994-1999 FMP was based on the working group concept (dominant species by basal area); the 1999-2004 FMP used nine forest units plus Non-Free-to-Grow and islands; and the 2004-2009 FMP had 12 forest units, following emergent provincial direction. This lack of consistency did not permit tracking regeneration efforts to desired forest units.

Conclusions Regarding Sustainability of the Crown Forest

In developing its conclusions regarding sustainability of the Trout Lake Forest, the audit team considered information from a number of sources, principally the:

- 2004-2009 FMP; 2009-2019 FMP
- Annual reports of the period (where information proved useful)
- Comparison and Trend Analysis Report
- 2004 IFA Audit Action Plan Status Report
- Interviews with staff of Domtar and Red Lake District MNR
- Field observations from 35 field stops

The various measurable indicators of sustainability tracked during forest management remained generally within acceptable levels between the two planning terms. For example, total production forest area increased although the total productive Crown land decreased slightly. Actual harvest area (and volume) also increased significantly, caused by the construction of the sawmill in Ear Falls, but did not keep pace with the increase in available harvest area.

Although the Forest is well managed by competent staff, staff numbers remain low. Repeated attempts by the company to recruit additional staff have helped replace key individuals but have not changed the overall staffing situation. The company is encouraged to continue its recruitment efforts.

Management objectives set for the 2004-2009 FMP were considered to be generally met although a number of objectives were assessed to be partially met due to market factors beyond the control of local

foresters. The reduced harvest during the past few years of this plan has compromised the meeting of objectives to some extent. The field audit showed that silviculture prescriptions were appropriate and were properly implemented.

The audit team concluded that forest sustainability is being achieved on the Trout Lake Forest.

4.8 Contractual Obligations

Sustainable Forest Licence #542461, granted to Domtar Pulp and Paper Products Inc. for the Trout Lake Forest, contains a series of licence conditions for the company to comply with to provide for sustainability of the Crown forest. The audit team has assessed each of those conditions as presented in Appendix 3.

In general, the audit team considers the licence conditions to have been met by the company with the following exceptions:

- **Wasteful practices**: Utilization was good in harvest blocks completed during the early part of the period under audit. Wasteful practices were found in blocks completed in the last two years. A recommendation is provided to address this exception (see Appendix 1, Recommendation 7).
- **Periodic review of licensee's performance**: Although the audit action plan and accompanying status report for the previous IFA were prepared in accordance with this licence condition, the audit team disagrees with the status report for two of the recommendations. Specifically, Recommendations 9 and 10 of the 2004 audit report were considered incomplete and direction is provided in this audit to address these shortcomings in Recommendations 18 and 19 respectively.
- **Compliance inspections and reporting; compliance with compliance plan**: The strategic compliance plan in the 2004-2009 FMP was not followed in a number of respects. Also, many compliance reporting requirements were not met. Differing non-compliance rates between MNR and Domtar and the omission of obvious non-compliances viewed during the audit indicate that Domtar inspectors sometimes reported non-compliances as being compliant or 'in compliance with comments' during the audit term. Inconsistent compliance interpretation was also noted as a finding in the 1999-2004 IFA. Two recommendations are provided to address these concerns (see Appendix 1, Recommendation 14 and 16).

4.9 Conclusions and Licence Extension Recommendation

Conclusions

Management of the Trout Lake Forest is in need of a number of improvements. The more significant operational concerns were found to have arisen during the latter 18 months of the audit period. In the view of the audit team, these concerns do not compromise forest sustainability but warrant corrective action. These concerns are discussed below by IFAPP guiding principle.

Forest Management Planning: The lack of LCC endorsement of the 2009-2019 FMP and its ten IEA requests are indicative of long standing problems that are yet to be resolved even with the proper execution of the FMPM issue resolution process.

Plan Assessment and Implementation: Bypass of merchantable timber was noted at a number of blocks. Although small amounts of bypass due to operability are common on most forest management areas in Ontario, significant bypass of accessible merchantable timber could compromise plan objectives related to future forest condition, wildlife habitat, and productivity and should be reduced on the Forest.

Evidence of poor wood utilization was found on several sites and corresponded to a shift to round wood operations to supply the Ear Falls sawmill. Rigid size specifications for that mill were seen to negatively affect wood utilization which, for the majority of the period under audit, has been excellent.

Excessive site disturbance was noted in several harvest blocks.

Monitoring - Compliance: Although Domtar's strategic compliance plan in the 2004-2024 FMP is thorough and well written, and would have allowed for a sufficient assessment of compliance and effectiveness of operations for the affected period, it was not followed in a number of respects.

Achievement of Management Objectives and Sustainability: The format of Table AR-3 was found to lack important spatial tracking information to report on clearcut progress and the implication to future caribou habitat. This concern was further emphasized by the amount of bypass viewed in harvest blocks and the inability to track whether or not planned spatial configurations were being achieved.

Licence Extension Recommendation

The team concludes that management of the Trout Lake Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Domtar Pulp and Paper Products Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #542461 for a further five years.

APPENDIX 1 – RECOMMENDATIONS

Independent Forest Audit – Record of Finding

Recommendation 1

Principle: 2 – Public Consultation & Aboriginal Involvement

Criterion: 2.1 – LCC establishment and terms of reference

Procedure(s): 1. Assess establishment of the LCC. This will involve a review of the terms of reference and LCC minutes, compared to the applicable FMPM requirements. It will also include examining whether
- the LCC purposes have been incorporated in the terms of reference

Background Information and Summary of Evidence: The 2004 FMPM requires that the LCC Terms of Reference be prepared (or updated for an existing committee) at the beginning of Phase I planning. The Red Lake District Resource management Advisory Committee (LCC) Official Terms of Reference (up-dated December 2006) was reviewed. Section 3.2.4 of the 2004 FMPM lists content requirements for the terms of reference for the LCC. The following items were either not included in the terms of reference reviewed by the audit team or not adequately addressed:

- Item (b) – the date of each member's appointment to the committee
- Item (c) – the roles and responsibilities of the committee and individual committee members, including how each committee member will report back to and/or obtain input from the constituency he or she represents
- Item (i) – background material and training required to assist committee members with their roles and responsibilities and forest management planning matters

The LCC purposes as listed in section 3.2.2 of the 2004 FMPM have been incorporated in the LCC Official Terms of Reference except for the following item:

- (n) (i) where the wording does not reflect changes made by the 2007 addendum to the 2004 FMPM.

However, the addendum was released after the LCC Terms of Reference was updated (2007 versus 2006).

Discussion: The LCC terms of reference forms part of the public record. It should be an accurate snapshot of the committee at the time it is updated and meet the requirements of the FMPM. Much of the content required by the FMPM also serves to aid the committee members in fulfilling their roles and responsibilities to the Committee, particularly for new members.

Conclusion: The audit team feels a recommendation is warranted to ensure that the LCC Terms of Reference meets the content requirements of the FMPM.

Recommendation 1: MNR District must ensure that the LCC Terms of Reference are updated to meet the content requirements of the FMPM.

Independent Forest Audit – Record of Finding

Recommendation 2

Principle: 3 – Forest Management Planning

Criterion: 3.5.12 – Planning of proposed operations – Determination of sustainability
The last step in determination of sustainability involves updating the preliminary determination of sustainability based on results of planning of operations. Assessment of objective achievement will be updated to reflect changes as a result of planning of operations using updated spatial assessments.

Procedure(s): 1. Assess whether the FMP provides for the sustainability of the Crown forest on the management unit based on the collective achievement of the objectives, comparison of proposed operations to the LTMD and the associated rationale for any management objectives that are not achieving the desired levels.

Background Information and Summary of Evidence: The review of the plan, planning team minutes, LCC minutes, field interviews and planning team questionnaires found that the development of the LTMD checkpoint was delayed by several months due to long standing differences in forest values and use patterns. The lack of LCC endorsement of the plan and 10 IEA requests are indicative of long standing problems that are yet to be resolved even with the proper execution of the FMPM issue resolution process.

Discussion: During the development of the LTMD there was a thorough examination of the underlying habitat use characteristics of the forest that confirmed the mosaic as proposed in 2004 (with some timing and slight boundary changes) provided reasonable protection of caribou values. These values are however at odds with those of local trappers and tourism operators. In addition, there are conflicting forest access issues where residents of the area want road access maintained contrary to caribou conservation and remote based tourism needs. It may be possible to see alternative caribou mosaic patterns if forest change simulators are used for this purpose (e.g. patchworks). Although the current approach to developing caribou mosaics is reasonable, the use of these simulators may reveal new options that could prove to be more socially acceptable.

Stakeholder engagement, although consistent with the FMPM during the development of the 2009-2019 FMP, is not as effective as it could be. There was some backsliding on earlier AOC prescriptions that could have been avoided by better stakeholder engagement or successful execution of Resource Stewardship Agreements. Road planning met FMPM requirements but failed to provide a longer term use strategy that properly informs the public and better conforms to the caribou guidelines.

There is an assumption that if the process is followed the outcome is satisfactory, even when local citizen concerns remain unresolved. Although the FMPM was adhered to, the process has lead to a plan that appears to be ecologically viable and economically feasible but may not be entirely socially acceptable. It may never be possible to please everyone all of the time in forest management decision making; however, it appears some additional effort is warranted on the Trout Lake Forest and the situation is serious enough to consider an early plan renewal.

Under the *Endangered Species Act (S.O. 2007, c. 6)* a caribou conservation plan has been recently released. This plan calls for the review of currently approved management plans and may require early plan renewal for the Trout Lake Forest.

Conclusion: Given the above concerns and the release of the Caribou Conservation Plan the following recommendation is made.

Recommendation 2: The audit team recommends that a joint MNR and Company team be created to consider the following elements in preparation of the Year Three Annual Report to determine if early plan renewal is warranted: i) implications of IEA request conditions; ii) consider the merits of enhanced spatial planning (e.g. PATCHWORKS) to assess if mitigation of conflicting values by adjusting the caribou mosaic is possible; iii) complete a comprehensive road planning exercise consistent with the life cycle of the mosaic and the intent of the caribou guidelines; and, iv) consider enhanced stakeholder engagement.

Independent Forest Audit – Record of Finding

Recommendation 3

Principle: 3 – Forest Management Planning

Criterion: 3.5.1 – FMP areas selected for operations
Areas are selected for harvest for the ten year period, normally equally balanced between the two five year terms; renewal and tending areas area identified; contingency area: minimum of one year, maximum of two years of harvest operations; bridging operations: 3 months of harvest operations in last AWS of the current approved FMP; second-pass harvest operations where only the first pass has occurred by expiry of the current FMP are identified.

Procedure(s): 1. Review areas selected for operations and assess whether:
- separate selection criteria for harvest, renewal and tending has been identified and is consistent with eligibility criteria for operations from the selected management alternative/management strategy
- clear rationale (ability to trace decision making, relative importance of each criteria) has been provided, in selecting areas for operations
- the FMP selects areas for harvest, consistent with the AHA by age class and forest unit and the selection criteria

Background Information and Summary of Evidence: It was noted that, on average, the 2009-2019 FMP selected harvest area included younger stands than those selected by the model. Although divergence between modeled and planned harvest area by age class was generally not large, there were a few instances of significant difference particularly for some age classes in the SBM and SBP forest units.

Discussion with MNR and Domtar staffs and a review of the inventory and selected harvest areas indicates that changes to the caribou mosaic and new reserves accounted for most of the age-class substitution that occurred in the 2009-2019 FMP. Areas not allocated in the 2009-2019 FMP also led to age-class substitution (i.e. some of the older wood in the model was actually in slivers and geographically isolated areas); under-allocation is discussed in next paragraph. There was a significant under-allocation (about 6,365 ha or 8% of the AHA) during the term of the FMP. There is very little discussion in the 2009-2019 FMP regarding the significant planned under-allocation during the term.

Discussion: It is common in Ontario to select younger stands than those selected by the model and, as noted, differentials in the 2009-2019 FMP were not large. However, according to the 2004-2024 FMP, this was not supposed to occur since younger stands had already been chosen for that plan. Page 175 states: *"Age class substitution occurred unintentionally through the implementation of the caribou mosaic on the unit which is still developing an effective road network. Once a road network has been established achieving SFMM forecast harvest area by forest unit and age class will be attainable".* Page 177 further states: "*younger age classes were selected for harvest in caribou mosaic 'A' blocks due to the limited time frame of harvest eligibility (up to 2019). In some cases, the older age classes were not accessible within this five year operating term. As harvesting progresses through the caribou 'A' blocks, the older age classes will become accessible and will be harvested at that time".* Figure 16 in the 2004-24 FMP shows the significant substitution for that plan mainly between the 81-100 and 121-140 year age classes.

The discussion regarding the under-allocation is limited to noting that there were lots of slivers left behind in 'A' blocks and that there were geographically isolated stands as well as differences between modeled reserves versus actual reserves (e.g. some larger reserves resulted from agreements with stakeholders and reserves were added around new values). The 2004-24 FMP also noted issues regarding slivers, etc. Page 178 states: "*Prior to SFMM modeling for the next management plan, the assumptions concerning unavailable reserved area will be reviewed and inputs adjusted accordingly, possibly resulting in more unavailable area and less available land in the Trout Lake Forest".*

Conclusion: Reclassification of slivers and other unattainable areas during planning inventory development would remove these sources of under-allocation. More time should be taken to identify and re-classify slivers and other unattainable areas during development of the next planning inventory.

Since selecting younger stands was a concern highlighted in the 2004-2024 FMP, some deeper discussion of why older stands could not always be selected in the 2009-2019 FMP is warranted.

The level of under-allocation (~8%) in the 2009-2019 FMP justified an in-depth analysis of the affect on plan

objectives, future wildlife habitat and sustainability with a detailed discussion of the results of the analysis in the FMP. Planning for surplus area or discussion in the FMP of why that would not be deemed necessary should also have occurred.
Recommendation 3: Domtar must ensure that a more thorough analysis and discussion is provided in the next FMP regarding any age-class substitution or under-allocation. The analysis and discussion should focus on the affect on plan objectives, future wildlife habitat and sustainability.

Independent Forest Audit – Record of Finding

Recommendation 4

Principle: 3 – Forest Management Planning

Criterion: 3.5.5 – FMP harvest and natural depletions
Consider FMPM direction and FMP documentation related to comparison of proposed operations to the selected management alternative.

Procedure(s): 1. Assess planned implementation of the selected management alternative/management strategy by reviewing:
- forecast of wood utilization by licensee/mill to determine whether wood supply commitments applicable to the management unit have been identified and addressed in the plan

Background Information and Summary of Evidence: Utilization direction in the 2009-2019 FMP is contradictory and unclear

- On page 279 it states "*The company intends to utilize all available merchantable live trees from allocated stands.*" This is corroborated in section 4.3.6 which notes that there will be no unutilized volumes and in Table FMP-18 that indicates that all species are to be fully utilized.
- On page 280 "*It is the company's intent to retain incidental species, such as cedar, on site during harvest operations unless it occurs in marketable patches and is of suitable quality and size to permit harvest*".

The 2004-2024 FMP has similar contradictory wording regarding utilization.

Discussion: The direction on page 280, other than being contrary to the full utilization direction, raises a number of questions. For example, what constitutes an incidental species? What is a marketable patch? What is suitable quality and size? All of these factors must be clearly outlined in an FMP to allow for consistent understanding of planned utilization during the term.

Conclusion: Consistent and clear utilization direction in the FMP is particularly important for compliance monitoring during plan implementation. Compliance should be gauged against the FMP first and the Scaling Manual when clear direction is not provided in the FMP. This allows for the provision of local standards in the FMP based on market conditions, etc. The following recommendation is closely tied to Recommendation 7 which focuses on reducing the waste of merchantable wood.

Recommendation 4: Domtar must amend the 2009-2019 FMP to include consistent and clear utilization direction. Furthermore, if a change to utilization standards occurs, the FMP must be amended appropriately.

Independent Forest Audit – Record of Finding

Recommendation 5

Principle: 4 – Plan Assessment and Implementation

Criterion: 4.3 – Harvest
This criterion addresses harvest operations outside of AOCs. Harvest operations must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs, AWS and FOPs.

Procedure(s): 1. Review and assess in the field the implementation of approved harvest operations. Include the following:
- select a representative sample of each of the various types of operations (winter and summer harvest, different harvest and logging methods, all stand types within the forest, salvage) from the areas where operations have been conducted during the five-year period of the audit, including any exception prescriptions implemented, bridging operations, second pass harvest
- assess whether: the harvest and logging methods implemented were consistent with the FOP; the FOP was consistent with the SGRs; the FOP was certified by an R.P.F. or other qualified individual, and actual operations, were appropriate and effective for the actual site conditions encountered

Background Information and Summary of Evidence: Bypass of merchantable timber was noted at six of 17 harvest blocks examined as part of the field audit (blocks 101, 110, 111, 137, 170 (some cleaned up with CTL), and 355). Conversely, appropriate bypass was noted at block 344 where under story conifer now dominates. Bypass viewed was often low-lying areas within upland blocks with a few cases of rocky upland areas within blocks. A significant amount of merchantable timber was left standing in the bypassed areas; volume that will be required to come from new blocks.

Discussion: Although small amounts of bypass due to operability are common on most forest management areas in Ontario, significant bypass of accessible merchantable timber could compromise plan objectives related to future forest condition, wildlife habitat and productivity, and should be reduced on the Forest. Bypass also puts additional pressure on finding new areas to harvest. The auditors recognise that there is a guideline requirement to retain residual insular and peninsular patches within harvested areas but the bypass areas noted did not fulfill this purpose and were in excess of these requirements. The auditors are also aware that, to reduce site disturbance, wet areas within upland blocks are often not cut at the same time as the upland portions but these should be harvested as soon as conditions allow (i.e. during the frozen period).

Conclusion: Bypass of merchantable timber must be minimized and limited to those areas that are truly inoperable or where harvest would overly disturb regenerating forests (e.g. stands that have succeeded).

Recommendation 5: Domtar must ensure that bypass of merchantable timber is limited to those areas that are needed to meet regulatory requirements, are truly inoperable or where harvest would overly disturb forest regeneration.

Independent Forest Audit – Record of Finding

Recommendation 6

Principle: 4 – Plan Assessment and Implementation

Criterion: 4.3 – Harvest
This criterion addresses harvest operations outside of AOCs. Harvest operations must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs, AWS and FOPs.

Procedure(s): 1. Review and assess in the field the implementation of approved harvest operations. Include the following:

- select a representative sample of each of the various types of operations (winter and summer harvest, different harvest and logging methods, all stand types within the forest, salvage) from the areas where operations have been conducted during the five-year period of the audit, including any exception prescriptions implemented, bridging operations, second pass harvest
- assess whether: the harvest and logging methods implemented were consistent with the FOP; the FOP was consistent with the SGRs; the FOP was certified by an R.P.F. or other qualified individual, and actual operations, were appropriate and effective for the actual site conditions encountered including residual stand structure required of the FMP including individual residual tree retention and downed woody material

Background Information and Summary of Evidence: During the field portion of the audit, a number of sites were examined where residual tree retention did not meet requirements. Although total number of residual trees was consistently met (25 trees/ha), wildlife tree retention of six per ha was often not met. In several instances large diameter trees remained unutilized at roadside after operations had ceased while large diameter tree retention in the harvest block was inadequate. In other instances large diameter trees that were dead were felled and skidded to roadside.

Discussion: The retention of six large diameter trees per ha cannot be overlooked even though 25 trees per ha are being retained.

Conclusion: Efforts need to be made to ensure that all NDPEG requirements are met.

Recommendation 6: Domtar must ensure that sufficient large-diameter trees are retained in harvested areas to meet NDPEG requirements.

Independent Forest Audit – Record of Finding

Recommendation 7

Principle: 4 – Plan Assessment and Implementation

Criterion: 4.3 – Harvest
This criterion addresses harvest operations outside of AOCs. Harvest operations must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs, AWS and FOPs.

Procedure(s): 1. Review and assess in the field the implementation of approved harvest operations. Include the following:

- select a representative sample of each of the various types of operations (winter and summer harvest, different harvest and logging methods, all stand types within the forest, salvage) from the areas where operations have been conducted during the five-year period of the audit, including any exception prescriptions implemented, bridging operations, second pass harvest
- assess whether: the harvest and logging methods implemented were consistent with the FOP; the FOP was consistent with the SGRs; the FOP was certified by an R.P.F. or other qualified individual, and actual operations, were appropriate and effective for the actual site conditions encountered including
  - whether wood utilization followed the Scaling Manual by considering items such as stump heights, wood left on site

Background Information and Summary of Evidence: Utilization viewed during the audit was excellent for the first three to four years of the audit term. This was accomplished through full utilization of conifer and hardwood round wood and pulp between 2004 and 2006 when more favourable markets existed. When conifer pulp markets became difficult in 2006, excellent utilization was extended for approximately 18 months through the adoption of a tops (including merchantable material beyond the round wood cut) and oversized wood chipping operation. Unfortunately, tops and hardwood full tree chipping was phased out during the final two years of the audit term - prohibitive cost was cited by Domtar. This led to removal of round wood only, mainly to the Ear Falls mill, which is set up to receive eight-foot long pieces to a maximum diameter of 18 inches. At sites where only round wood was removed, large amounts of wood fibre, including merchantable pieces beyond the round wood cut and oversized wood, was left at roadside as slash. Most hardwoods were also left standing at these sites.

Discussion: According to compliance reports by MNR and the company, the merchantable pieces being left behind on these sites are not identified as a compliance issue but this is a systematic wasteful practice.

Conclusion: The public resource must not be wasted due to local reliance on a mill that has wood length and diameter limitations.

Recommendation 7: Domtar and District MNR must develop and implement a strategy to address the waste of merchantable wood on the Forest. The strategy must be amended to the 2009-2019 FMP.

Independent Forest Audit – Record of Finding

Recommendation 8

Principle: 4 – Plan Assessment and Implementation

Criterion: 4.3 – Harvest
This criterion addresses harvest operations outside of AOCs. Harvest operations must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs, AWS and FOPs.

Procedure(s): 1. Review and assess in the field the implementation of approved harvest operations. Include the following:

- select a representative sample of each of the various types of operations (winter and summer harvest, different harvest and logging methods, all stand types within the forest, salvage) from the areas where operations have been conducted during the five-year period of the audit, including any exception prescriptions implemented, bridging operations, second pass harvest
- assess whether: the harvest and logging methods implemented were consistent with the FOP; the FOP was consistent with the SGRs; the FOP was certified by an R.P.F. or other qualified individual, and actual operations, were appropriate and effective for the actual site conditions encountered including
  - whether harvest operations were conducted to minimize site disturbance taking soil and weather conditions into account

Background Information and Summary of Evidence: Excessive site disturbance was noted during the audit at blocks 113, 114, 256, 612, and 616. Disturbance consisted of rutting of saturated fine-textured soils over significant portions of stands during harvesting operations. The audit team later audited a block on an adjacent Forest which abutted a recently harvested block on the Trout Forest. There was a stark contrast between the operations on the Forest being audited at the time, which was found to have minimal site disturbance, and the block on the Trout Forest, which had considerable site damage consisting of rutting and large holes caused by sinking the harvesting equipment.

Discussion: Domtar staff remarked that there were some wet summers and warm winters that contributed to site disturbance during the audit term. It was also noted that union agreements may have had an affect through restricting equipment movements and ensuring work regardless of conditions. Although the audit sample suggested otherwise, site disturbance was not found through compliance monitoring by ministry or company inspectors to be a common issue. This failing is discussed with a recommendation in the Monitoring section.

Conclusion: Efforts are required to ensure that site disturbance (rutting) is minimized. Although operators bear some responsibility, identifying sensitive sites and conditions and using this information to plan operations will help address the concern.

Recommendation 8: Domtar must be more diligent in identifying sensitive sites/conditions and in reducing site disturbance on the Forest.

Independent Forest Audit – Record of Finding

Recommendation 9

Principle: 4 – Plan Assessment and Implementation

Criterion: 4.4. - Renewal
Renewal operations must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs, AWS, and FOPs.

Procedure(s): 1. Review and assess in the field the implementation of approved renewal operations. Include the following

- select a representative sample of each type of regeneration and site preparation operation from those areas where operations have been conducted during the five-year period of the audit and from each of the five years being audited (to provide for assessing the effectiveness of renewal prescriptions), including any exception prescriptions implemented
- assess whether site preparation and regeneration treatments were consistent with the FOP; the FOP was consistent with the SGRs; the FOP certified by an R.P.F. or other qualified individual, and actual operations, were appropriate and effective for the actual site conditions encountered including
    - whether site preparation operations were conducted to minimize site disturbance taking soil and weather conditions into account
    - assess the effectiveness of operations to reduce the areas of slash piles and chipping debris and treatments to regenerate these areas

Background Information and Summary of Evidence: Slash management viewed on field stops showed that areas where full utilization had occurred resulted in small slash piles that were normally piled and burned, and therefore affected negligible productive area. These areas had been operated in the earlier part of the period under audit. Conversely, the more recent blocks sampled for the field portion of the audit exhibited large amounts of slash.
It was found that on the majority of sites where chipper debris was generated no remedial treatment was implemented to manage these sites and initiate subsequent renewal treatments. This was a consistent trend for areas which were prescribed for natural regeneration. Some chipper debris pads within areas prescribed to site preparation were found to have been power disk trenched and planted, however this was not done on a consistent basis.

Discussion: Slash management has regressed over the period under audit. Large amounts of slash that had been left in more recent blocks will be difficult to manage and is affecting significant amounts of productive land and is otherwise cause for negative public comments. These slash piles can persist for decades resulting in ever increasing losses to the productive landbase of the Forest. Untreated chipper pad sites are highly unlikely to regenerate naturally and continuing this practice will lead to a compounding loss of productive land.

Conclusion: Loss of productive land due to inadequate management of slash and chipper debris requires rectification. To meet plan objectives, the audit team expects that Domtar will complete treatment of outstanding slash and chipper debris. The following recommendation was developed to focus clean-up and future efforts with regards to slash and chipper management.

Recommendation 9: Domtar must ensure that loss of productive land is minimized through treatment of slash material and chipper debris.

Independent Forest Audit – Record of Finding

Recommendation 10

Principle: 4 – Plan Assessment And Implementation

Criterion: 4.7 Access
Road construction, various types of water crossings including crossing structures, road monitoring, maintenance, aggregates and any other access activities must be conducted in compliance with all laws and regulations, including the CFSA, and approved activities of the FMP, AWS.

Procedure(s): 1. Review and assess in the field the implementation of approved access activities. Include the following

- select a representative sample of each type of access activity (road construction, various types of water crossings - winter, culverts, bridges, road maintenance, decommissioning) from primary, secondary/branch and tertiary/operational roads constructed during the five-year period of the audit
- conditions on construction including the approved water crossings structure, *Fisheries Act (R.S. 1985, c. F-14)* review, and conditions on crossings of other AOCs

Background Information and Summary of Evidence: During the field portion of the audit, several water crossings were found to have been installed in a manner that marginally met requirements. One water crossing installation exhibited more severe problems. Crossing WC6 in Block T101 had a long, fill slope not sloped to a stable angle of repose caused by using a culvert that is too short, inadequate riprap and sloped road approaches to the crossings that had no means to divert water from the road surface.

Discussion: The height from stream to road surface over water crossing was in excess of 3m. The risk of failure is high.

Conclusion: To minimize risk of water crossing failure this crossing requires reparation.

Recommendation 10: Domtar must ensure that water crossing WC6 in Block T101 is repaired to meet the Environmental Guidelines for Access Roads and Water Crossings.

Independent Forest Audit – Record of Finding **Recommendation 11**
Principle: 4 – Plan Assessment And Implementation **Criterion:** 4.7 Access Road construction, various types of water crossings including crossing structures, road monitoring, maintenance, aggregates and any other access activities must be conducted in compliance with all laws and regulations, including the CFSA, and approved activities of the FMP, AWS. **Procedure(s):** 1. Review and assess in the field the implementation of approved access activities. Include the following • select a representative sample of each type of access activity (road construction, various types of water crossings - winter, culverts, bridges, road maintenance, decommissioning) from primary, secondary/branch and tertiary/operational roads constructed during the five-year period of the audit • conditions on construction including the approved water crossings structure, *Fisheries Act (R.S. 1985, c. F-14)* review, and conditions on crossings of other AOCs
Background Information and Summary of Evidence: Ponding along tertiary roads was found in a number of blocks where drainage pipes had either not been installed or had been improperly installed.
Discussion: A number of drainage problems were seen from lack of installation to improper installation. Ponding along roadways causes road instability. Impediments to water flow were also seen to cause flooding and mortality to flora.
Conclusion: Assurances that water can flow unimpeded after road construction is a necessary component of road construction.
Recommendation 11: Domtar must ensure that adequate drainage pipes are properly installed and maintained to permit unimpeded water flow.

Independent Forest Audit – Record of Finding **Recommendation 12**
Principle: 4 – Plan Assessment And Implementation **Criterion:** 4.7 Access Road construction, various types of water crossings including crossing structures, road monitoring, maintenance, aggregates and any other access activities must be conducted in compliance with all laws and regulations, including the CFSA, and approved activities of the FMP, AWS. **Procedure(s):** 1. Review and assess in the field the implementation of approved access activities. Include the following • select a representative sample of each type of access activity (road construction, various types of water crossings - winter, culverts, bridges, road maintenance, decommissioning) from primary, secondary/branch and tertiary/operational roads constructed during the five-year period of the audit; include category 14 and category 9 aggregate pits for new roads and existing roads • determine whether the operations implemented were consistent with Aggregate Resources of Ontario Provincial Standards, category 9 aggregate pits'
Background Information and Summary of Evidence: Several Category 9 and 14 aggregate pits were reviewed during the field portion of the audit. Most had been properly rehabilitated; however, a number of aggregate pits that had been recently operated but were inactive at the time of the audit had steep slopes at the working face(s).
Discussion: Conformance with the *Aggregate Resources Act (S.O. 1990, c. A.8)* is required for all aggregate pits in Ontario. Of particular concern is lack of sloping during periods of inactivity since steep pit faces can pose safety hazards. Injuries have occurred elsewhere in Ontario in similar situations. Proper sloping of pits faces is easily accomplished and should be done.
Conclusion: Efforts must be made to reduce safety risks by following pit rehabilitation protocol during periods when pits are inactive.
Recommendation 12: Domtar must ensure that all aggregate pits are properly rehabilitated during periods of inactivity.

Independent Forest Audit – Record of Finding

Recommendation 13

Principle: 5 – System Support

Criterion: 2 – Document and Record Quality Control
The organization's information management system must include processes for identification, preparation, distribution, collection and maintenance of forest management documents and records.

Procedure(s): 1. Assess the organization's information management system processes by considering
- identification of individuals or positions responsible to prepare, maintain, and revise individual documents, relevant procedures, schedules
- interviews with employees
- control of distribution of documents, both internally and externally
- control of obsolete documents
- availability of a current version of the relevant documents at all locations where activities essential to the effective functioning of the sustainable forest management system are performed
- storing copies of all relevant documents in a central location for audit inspection

Background Information and Summary of Evidence: The Red Lake District MNR was to provide LCC meeting minutes for the audit period as outlined in the IFAPP. Provision of this information was problematic. It was later determined through an interview with the MNR LCC Liaison person that the delay in providing the LCC meeting minutes was due to the fact that the documents were not maintained in an organized manner over the years that allowed them to be readily available upon request. Appendix B of the IFAPP states that LCC minutes are to be made available to the auditor at the Pre-Audit/Draft Audit Plan stage for use in preparing the first draft of the audit plan. The first draft of the audit plan was circulated to relevant parties on May 1, 2009 and the LCC minutes were provided to the audit team in early June, 2009. In addition, the EA Declaration Order (2003) states in section 5(f)(i) that *all documentation produced by the Local Citizens Committee shall be available for public review.*

Through a review of LCC meeting minutes the audit team noticed that corrections to previous meeting minutes were not made as requested in subsequent meeting minutes. According to section 16.1 (v) of the *Official Rules of Procedure* as recorded as an Appendix of the LCC's *Official Terms of Reference* minutes must be distributed to members in both "draft and the adopted form". This suggests that the auditors should have been provided with meeting minutes that incorporated edits requested in subsequent meetings. Minutes are recorded verbatim and interviews with the District Manager and the LCC Liaison person indicated that this results in a time-consuming and expensive process of transcribing tape-recorded meetings and reviewing minutes. However, the LCC regularly revisits the issue of recording minutes verbatim and each time the committee votes in favour of maintaining this approach.

Discussion: Select MNR District staff members participate in auditee training prior to an upcoming independent forest audit where they are provided a copy of the IFAPP and informed of their role and responsibilities in providing information to the auditors when requested. In the least, LCC meeting minutes should have been organized in anticipation of the auditors' request. Preferably the meeting minutes should be regularly maintained in an organized, easily accessible fashion.

The LCC spends time at the beginning of each meeting to review the previous meetings minutes and carries motions to approve them. Often, the motion will include accepting the minutes *with changes* as discussed. The MNR District must ensure that these motions are followed and that Official Rules of Procedure are also followed through accurately and that requested corrections to previous meeting's minutes are made.

Since LCC meeting minutes become part of the public record it is imperative that they be maintained in an accurate and easily accessible manner.

Conclusion: LCC meeting minutes must be an accurate account of the meetings' activities and must be easily accessible should a request come from the public to view them. The audit team believes that the two issues go hand in hand. If the record of LCC meeting minutes was maintained on a regular basis (i.e. monthly) then requested edits to previous meeting's minutes could be made and an official adopted version filed in an organized, easily accessible manner.

Recommendation 13: District MNR must ensure that the minutes of LCC meetings are maintained in a manner that ensures they are accurate and readily accessible.

Independent Forest Audit – Record of Finding

Recommendation 14

Principle: 6 – Monitoring

Criterion: 1 District Compliance Planning and Associated Monitoring

Procedure(s): Review the MNR District Compliance Plans in place during the term of the audit (consider FMP - criteria 3.5.10 as well) to determine how forest management activities were to be monitored by MNR and assess whether the actual level of the overall monitoring program was in accordance with the FMP/plans and whether it was appropriate based on evidence gathered through analysis of related criteria, including field audits. Consider Principle 4 which includes examination of FOIRs.

Criterion: 2.1 SFL Holder Compliance Planning and Monitoring

Procedure(s): 1. Review the five or ten year compliance strategy (plan) and the Annual Plans of Action (Schedule). Determine whether these plans were appropriate and sufficient to assess program compliance and effectiveness.

- consideration of this criterion/procedure is in R's that follow R#15, but still seems relevant to this R given is directed at company as well; may not need to add anything else to this record of finding if this is added but double check; may need cross reference in text if not covered now

Background Information and Summary of Evidence: As discussed in the Plan Assessment and Implementation section, excessive site disturbance was noted during the audit at five blocks - 113, 114, 256, 612, and 616. Site disturbance at these sites consisted of rutting saturated fine-textured soils during harvesting operations. A recommendation was made that Domtar reduce site disturbance but recording of these issues must also occur during compliance monitoring.

Also, as discussed in the Plan Assessment and Implementation section, utilization was not good on blocks operated later during the audit term where only round wood was removed. At these sites, large amounts of wood fibre, including merchantable pieces beyond the round wood cut and oversized wood, was left at roadside as slash. A recommendation was provided in the Plan Assessment and Implementation section to develop and implement a strategy to reduce the waste of merchantable wood on the Forest. This obvious wasteful practice was not considered as such by ministry or company compliance inspectors.

Discussion: Beyond the actual issues of site disturbance and waste of wood which were obvious based on the audit sample, it was found that these issues were not being identified or reported during compliance monitoring by ministry or company inspectors.

According to ministry and company compliance reports, the merchantable pieces being left behind on these sites are not a compliance issue but this is a systematic wasteful practice. Waste of the public resource must be reported when it occurs. Also, significant rutting of large portions of blocks should be noted as site disturbance.

Conclusion: It is important that all issues are noted during compliance monitoring.

Recommendation 14: Domtar and MNR compliance inspectors must cooperatively resolve inconsistencies in compliance interpretation and must report all non-conformances including wasteful practices and excessive site disturbance.

Independent Forest Audit – Record of Finding **Recommendation 15**
Principle: 6 – Monitoring **Criterion:** 6.2.1 – SFL holder compliance planning and monitoring **Procedure(s)**: 4. Examine whether the SFL has continued to maintain their overall forest management oversight role related to development and maintenance of the compliance plan and its implementation while ensuring the sustainability of the management unit in accordance with the approved FMP and has provided for the education and training of workers and overlapping licensees. **Criterion:** 6.5 - Annual Report **Procedure(s)**: 1. Examine the annual reports for the term of the audit and assess whether the text, tables and maps including digital information is accurate, complete and in accordance with the applicable requirements, including the associated deadlines. Include: • examine whether the reports accurately document monitoring and assessment activities that were completed during the year.
Background Information and Summary of Evidence: SFL holders are required to have forest operations monitored by a certified compliance inspector(s). MNR provides all compliance certification training in Ontario, usually through annual regional sessions. It was noted during the audit that Domtar had wanted to get a new staff member certified this year but that no MNR compliance course was being provided. According to MNR, low interest and a number of recent and planned changes to the compliance program were reasons for not providing a training course this year. MNR also noted that the program is run through 'cost recovery' and requires 15-20 applicants regionally, per session, to be feasible.
Discussion: Although stream-lining has reduced the training period from five to three days, the auditors are concerned that the program model is too rigid or is otherwise not able to efficiently meet current reduced industrial demand. Compliance has become a responsibility of SFL holders with MNR playing a supporting and auditing role. Compliance training offered by MNR must fully support industry's ability to carry out the program.
Conclusion: MNR needs to ensure that its training schedule is not so restrictive that it fails to support required compliance monitoring by industry.
Recommendation 15: Corporate MNR must look at offering varied compliance inspection training options to allow for timely training of all parties required to have certified inspectors.

Independent Forest Audit – Record of Finding

Recommendation 16

Principle: 6 – Monitoring

Criterion: 6.2.1 – SFL holder compliance planning and monitoring

Procedure(s): 1. Review the Five or Ten Year Compliance Strategy (Plan) and the Annual Plans of Action (Schedule). Determine whether:

- approval dates for the five or ten year and annual plans were prior to the issuance dates of harvest approvals and/or forest resource licences as applicable
- these plans have addressed requirements of the FMPM and the Guideline for Forest Industry Compliance Planning
- these plans were appropriate and sufficient to assess program compliance and effectiveness
- the actual level of the implemented overall monitoring program is appropriate and effective, and whether it is it in accordance with the approved FMP and AWS (criteria 3.5.10, 3.9). Consider Principle 4 which refers to determining whether plans to monitor compliance are effective for each type of activity during review of operations including field audit.

2. Determine whether the FOIRs have been submitted electronically to the MNR database in accordance with requirements including timelines specified in MNR procedures and FIM.

Background Information and Summary of Evidence: Although Domtar's strategic compliance plan in the 2004-2024 FMP is thorough and well written, it was not followed in a number of respects. For example, Domtar was to complete and submit to MNR a report if operations were shut down for more than three weeks; this was not done and block suspension was rarely used during the term. Stream crossing installation notifications were also to be provided to MNR at least five days in advance of the work and this did not occur. Annual primary and secondary road assessment reports of needed activities were to be sent to MNR. Since these were done through Domtar's EMS, MNR was not privy to the reports.
Domtar did not meet the reporting timelines for many FOIP submissions and otherwise fell behind in actual levels of compliance monitoring.

Discussion: Domtar's strategic compliance plan would have allowed for a sufficient assessment of compliance and effectiveness of operations for the affected period.
To date, Domtar has completed most of the outstanding reports but the methodology used to complete some of the reporting was questionable. For example, SAPs were used for final inspections – this does not provide for detection of wasteful practices, etc. The timing of compliance reports is clearly outlined in *Guideline For Forest Industry Compliance Planning* (2005).

Conclusion: Compliance Plan direction and reporting timelines as described in *Guideline For Forest Industry Compliance Planning* (2005) must be met by Domtar.

Recommendation 16: Domtar must meet compliance monitoring requirements on the Trout Lake Forest including following the Compliance Plan, completing thorough reports that are submitted on time, using block suspensions when required and using appropriate methods for completing reports.

Independent Forest Audit – Record of Finding

Recommendation 17

Principle: 6 – Monitoring

Criterion: 6.3 – Silviculture Standards and Assessment Program
The entire cycle from SGRs, FOPs, field operations, regeneration assessment surveys to FRI update must be assessed.

Procedure(s): 3. Assess the actual level of the overall monitoring program including whether:
- it was in accordance with the FMP, including silviculture guide exceptions monitoring, and whether it was appropriate based on the field audit and other evidence gathered through analysis of related criteria
- the amount of area eligible for survey is consistent with past levels of harvest and whether all areas are being addressed.

Criterion: 6.5 Annual Reports

Procedure(s): 1. Examine the annual reports for the term of the audit...
- examine whether the reports accurately document monitoring and assessment activities that were completed during the year.

Background Information and Summary of Evidence: A total of 13,715 ha of FTG were surveyed in the fall of 2008 and 3,666 ha was surveyed in 2006. At the time of the audit, areas surveyed in 2008 were not yet submitted to the MNR nor had the information been used to update the FRI. Areas surveyed in 2006 were submitted and spot checked by the MNR however these areas were not reported in the Annual Report nor was that information used to update the FRI.

Table AR-14 from the 2006-2007 Annual Report did not contain any summary of free-to-grow areas assessed during the term.

The 2004-2024 FMP forecasts 8,534 ha of FTG assessments. Timeframes to reach free-to-grow standards set in the SGR were extended in that plan from 7 to 10 years. The previous IFA identified a backlog of areas requiring FTG assessment (8,679 ha). A total of 19,624 ha have been surveyed during the term however, only 11% of those areas have been declared in the Annual Reports.

Discussion: It is the responsibility of the licensee to provide a summary of the assessments of regeneration success that were undertaken during that year (FMPM, page E-11, line 9-10). The Forest Information Manual also states that: *"The Licensee is also responsible for maintaining all records of information gathered during implementation of the monitoring program, and for using this information in annual reporting and in future forest management plan development."*

A thorough assessment of Domtar's ability to satisfy the silvicultural standards of the SFL (Section 16.0) requires that all of the free-to-grow area surveyed during the term be considered. The regenerative and silvicultural success of areas surveyed (AR-14) provides crucial information relating to the licensees ability to meet the SMA and the LTMD for the forest.

Conclusion: FTG surveys need to be submitted to MNR and reported in annual reports as required by the FMPM.

Recommendation 17: Domtar must ensure that all free-to-grow surveys conducted during the term are submitted to the MNR and reported in the annual reports.

Independent Forest Audit – Record of Finding

Recommendation 18

Principle: 6 – Monitoring

Criterion: 6.5 – Annual Report
For each management unit a report will be prepared annually to summarize the forest management activities that were carried out during the preceding year, usually April 1 to March 31.

Procedure(s): 1. Examine the annual reports for the term of the audit and assess whether the text, tables and maps including digital information is accurate, complete and in accordance with the applicable requirements, including the associated deadlines.

Background Information and Summary of Evidence: Annual Reports completed during the audit term did not meet all requirements and were otherwise not carefully prepared or reviewed.

Discussion: The 1999-2004 IFA also noted issues with annual reporting and provided a recommendation (#9) to ensure reports were complete, accurate and understandable. Five action items were created to deal with this recommendation and the action item status report indicates completion of the action items – the audit team disagrees with this assessment, particularly related to the status of action item 5, which is focused on Domtar submitting complete and accurate reports and MNR thoroughly reviewing the reports - "*The company has submitted complete and accurate annual reports and the MNR has reviewed and accepted these ARs.*"

Whereas the 1996 FMPM required that MNR review all annual reports, the 2004 FMPM (Section 5.2) only requires MNR review of enhanced annual reports (i.e. Years 3, 7 and 10) and provides MNR the opportunity to reduce review of regular annual reports (Section 5.1) – MNR staff "will have the opportunity to review the annual reports for completeness and accuracy". However, the annual reports being submitted are still unsatisfactory. The audit team believes that it will take the cooperative efforts of Domtar and MNR to consistently bring the annual reports up to standard.

Conclusion: Annual reports are public documents that should showcase forest management operations on a unit. Until the time that complete and accurate reports are consistently prepared, the company and ministry have a role in reviewing all reports. To emphasize the fact that annual reporting is still sub-standard and requires oversight by the ministry and company to rectify, Recommendation #9 from the 1999-2004 IFA is reworded and redirected in this audit.

Recommendation 18: Domtar Senior Management and District MNR must determine why annual reports still contain inaccuracies and ensure that future annual reporting is complete, accurate, and understandable.

Independent Forest Audit – Record of Finding

Recommendation 19

Principle: 7 – Achievement of management objectives and forest sustainability

Criterion: 7.1 - Year Ten Annual Report (AR)
2004 FMPM: for plans which expired on March 31, 2004 or later, a Year Ten AR is required in accordance with the requirements in the 2004 FMPM for the last annual report for the five-year term of the plan. The Year Ten AR is to include an analysis of forest disturbances, a review of renewal and tending activities, a review of forest modeling assumptions, an assessment of objective achievement and a determination of sustainability including recommendations. The Annual Report Preparation and Review Protocol indicates all recommendations should be summarized under section 4.6.2.

Procedure(s): 1. Examine the Year Ten AR for the term of the audit and assess whether the text, tables and maps including digital information is an accurate and complete compilation of information contained in previous annual reports for the five-year FMP term. For those items not covered by subsequent procedures in this criterion assess whether the report has been prepared in accordance with the applicable FMPM requirements. Determine whether the associated deadlines have been met.

Background Information and Summary of Evidence: The 2003-2004 Year-10 AR was found to be incomplete. It should have been produced following all of the phase-in requirements of the 2004 FMPM. The report was also compared against direction provided in 2004 to SFL holders and MNR District staff by Corporate MNR.

MNR produced a procedure for undertaking the Review of Management Unit Annual Reports. This procedure outlines the approach for MNR review of these final year reports in addition to the review process for the intervening years. To assist with the review FMB has continued to develop and improve software called the Annual Report Verification Tool. This tool is available to District and company staff via the Forest Information Portal. To ensure that those responsible for implementing this procedure (usually area foresters) understand the process, Forest Management Planning Section has incorporated this procedure with their Annual FMP update sessions. Plan authors from the forest industry have also been made aware of the contents of this procedure so that they are aware of the significance of the MNR review of management unit Annual Reports.

Discussion: AR tables 1-5, 8 and 11 (based on the 1996 FMPM) formed part of the report as required. However, there was no discussion around Table AR-3 (2004 FMPM) relating to planned clearcuts as required. The 2004 FMPM (pg. E-27) requires a brief description of progress to date (e.g. % completed, anticipated year of completion, explanations for differences when the harvest operations are completed). None of this information is provided in Table AR-3 or the associated text. In addition, the table was not complete as it did not include any statements in the "Remarks on Progress" column to provide comment on the many clearcut blocks listed as planned to be cut during the term but were either not cut, or only partially cut.

The following required AR Tables were also missing from the report:

- Table AR-15 Summary of Frequency Distribution of Forest Disturbance by Size Class (2004 FMPM, Section 4.1 Analysis of Forest Disturbance)
- Table AR-16 Summary of Harvest and Regeneration Trends (2004 FMPM, Section 4.2 Review of Renewal and Tending activities)

The following discussions were also missing from the text of the report:

- A review of the assumptions used in the development of the strategic direction (2004 FMPM, Section 4.3 Review of Forest Modelling Assumptions)
- A discussion on previous audits (2004 FMPM, Section 4.4 Independent Forest Audit Action Plans)

RPFO tables 13-19 were included in the report; however, limited discussion was provided to support any sort of analysis of the data presented.

Numerous tables missing important figures

- RPFO-14 – nothing presented for 2004 predicted
- RPFO-15 – no data included for entire columns
- RPFO-16 – nothing presented for 2004 predicted
- RPFO-18 – data for 5 of 7 indicators not provided

There was no discussion in the Socioeconomic Condition section on the impacts of a harvest level falling below the AHA, or of the economic environment or investment intention as required by the FMPM.

The section discussing achievement of management objectives was poorly written. The 1999-2004 FMP management objectives are not even reiterated in the text; therefore the reader does not know what the plan objectives were unless they have access to the plan itself. The result is merely a bunch of statements that the reader has no means with which to draw their own conclusions from. The format of the discussion also makes it difficult to determine whether each objective has been spoken to in the text. The audit team concludes that there is not enough detail or discussion to meet the intent of the requirements of Section 4.4 of the 1996 FMPM.

There was no clear review conducted of the assumptions used in the development of the strategic direction nor were any observations, conclusions or recommendations for modifications or refinements provided as required.

Under the conclusion section, the first paragraph makes a conclusion contradictory to previous conclusions. It states "The area and volume harvested were below the planned values but this fact can be attributed to the inflated amount of wood allocated to ensure and maintain operational flexibility." Previously in the report, reasons given for the actual harvest levels being below planned levels included a lack of contractors. The 2004 IFA report attributed the lower harvest level to "Abitibi Consolidated not exercising its wood supply agreement and poor market conditions for spruce early in the planning term." In addition, the conclusion discussed issues with yield curves and how significant effort was expended to review the yield curves for the 2004-2009 FMP planning process. Interestingly, this is the only time yield curves are mentioned in the report.

Conclusion: In general there seems to have been a lack of effort or thought put into the content of the report which could be considered a lack of commitment (i.e. human resources) on the part of the company to its reporting obligations. The report would have also benefited from a thorough edit for spelling, grammar, and sentence structure. The quality of the report is especially troubling since this was a concern of the previous audit that led to a recommendation. MNR also failed in its review of the report which should not have been accepted.

According to the MNR procedure for undertaking the Review of Management Unit Annual Reports an MNR review of Annual Reports is important to support the production of accurate provincial annual and state of the forest reports and to demonstrate due diligence for ensuring that the requirements of the CFSA and its regulations are being met. This includes the legal requirements of the FMPM and FIM.

In summary the 2003-2004 Year 10 AR for the Trout Lake Forest was found to be incomplete.

Recommendation 19: Domtar and MNR District must ensure that enhanced Annual Reports meet all of the requirements of the FMPM.

Independent Forest Audit – Record of Finding

Recommendation 20

Principle: 7 – Achievement of management objectives and forest sustainability

Criterion: 7.1 - Year Ten Annual Report (AR)
2004 FMPM: for plans which expired on March 31, 2004 or later, a Year Ten AR is required in accordance with the requirements in the 2004 FMPM for the last annual report for the five-year term of the plan. The Year Ten AR is to include an analysis of forest disturbances, a review of renewal and tending activities, a review of forest modeling assumptions, an assessment of objective achievement and a determination of sustainability including recommendations. The Annual Report Preparation and Review Protocol indicates all recommendations should be summarized under Section 4.6.2.

Procedure(s): 1. Examine the Year Ten AR for the term of the audit and assess whether the text, tables and maps including digital information is an accurate and complete compilation of information contained in previous annual reports for the five-year FMP term. For those items not covered by subsequent procedures in this criterion assess whether the report has been prepared in accordance with the applicable FMPM requirements. Determine whether the associated deadlines have been met.

Background Information and Summary of Evidence: Review of the Year Ten AR included examination of Table AR-3 "Annual Report of Planned Clearcuts". The table includes a required column "Remarks on Progress" in which the author is to "Enter a brief description of progress to date (e.g., % completed, anticipated year of completion, explanations for differences when the harvest operations are completed). (2004 FMPM).

Field stops showed excessive bypass area that could compromise the development of future caribou habitat and not be clearly reported in Table AR-3.

Discussion: The above comments regarding Table AR-3 (Annual Report of Planned Clearcuts) raise an important concept regarding clearcuts within the range of woodland caribou, particularly in this audit where excessive bypass was a concern of the audit team. Bypassed areas within caribou blocks present an additional concern related to potential alteration of the spatial configuration of caribou blocks from what was planned. For example, bypass area could significantly reduce block size or increase fragmentation and linear edge, thus compromising the development of future caribou habitat.

Conclusion: Although Table AR-3 provides a mechanism to report aspatially on clearcut progress, there are spatial characteristics when planning caribou blocks that form important components of caribou habitat. Spatial analysis of planned and actual clearcuts warrants careful consideration for a species designated as "threatened" by the *Endangered Species Act (S.O. 2007, c. 6).*

Recommendation 20: Corporate MNR must consider mechanisms to report spatially on planned vs actual caribou block harvest achievement.

APPENDIX 2 – MANAGEMENT OBJECTIVES TABLE

2004-2024 Forest Management Plan

Objective	Assessment	Auditor Comments
A. Forest Diversity Objectives		
1. To maintain or move towards a natural range of forest age classes.	Partially Met	The SMA met this objective. Under achievement of planned harvest levels limits fully meeting this objective.
2. To maintain forest tree species diversity within the bounds of natural variation for site regions 3S and 4S over time as reflected in the natural benchmark scenario. To increase the area in the red pine mix forest unit during the 2004-2009 planning term.	Met	The 2004-2009 FMP forecast an increase of 102 ha of the PRW forest unit. During the term 35,040 red pine seedlings were planted.
3. To use silviculturally sound forest practices to emulate natural disturbance and landscape patterns characteristic of site regions 3S and 4S as described in the *Forest Management Guidelines for the Emulation of Fire Disturbance Patterns - Analysis Results, April 4, 1997.*	Partially Met	Most harvest blocks met this objective although some non-conformances were found – harvest block boundaries that were straight versus contoured to actual stands as planned. Under harvest and level of bypass within allocated harvest blocks is a concern.
4. To maintain the productivity of soil function in the Trout Lake Forest.	Partially Met	Annual Reports did not include a record of activities on Ecosite 11 and 12 areas as specified in the FMP. Otherwise met.
5. To maintain forest function for wildlife habitat in the Trout Lake Forest.	Partially Met	Level of bypass within allocated harvest blocks will not permit defragmentation as planned. Level of under harvest compromises caribou habitat targets.
6. To maintain water quality and protect fisheries habitat within watersheds where forest management activities occur.	Met	AOCs to protect water quality and fisheries were maintained.
B. Social and Economic Matters Objectives		
7. To maintain or increase the current predictable and continuous supply of wood products to the forest products industry at a competitive cost from the Trout Lake Forest.	Partially Met	Reduced attention to minimizing loss of productive area (treating slash and chipper piles and reforesting redundant tertiary roads and landings inside harvest blocks) is a concern. Planned harvest and allocation strategies could not be implemented due to poor market conditions.
8. To make available to local users incidental volumes of timber for such uses as fuelwood, building logs, fence posts, furniture and other materials for personal or small-scale commercial use to local users.	Met	MNR staff reported no issues with respect to this objective.
9. To work with local Aboriginal peoples, whose communities are situated in or adjacent to the Trout Lake Forest, to identify and implement ways to enhance social and economic benefits to Aboriginal peoples.	Met	No Aboriginal communities are located within the Trout Lake Forest. Lac Seul First Nation had a representative on the planning team for the 2009-2019 FMP. Pikangikum First Nation progressing towards acquisition of wood processing facility.

Objective	Assessment	Auditor Comments
10. To recognize and respect the legitimacy and presence of all resource based tourism operations and other commercial businesses in, or adjacent to the Trout Lake Forest and to contribute to their economic viability.	Met	Operations on the Forest were performed in accordance with FMP direction respecting tourism. Several non-timber users of the forest opposed direction in the 2009-2019 FMP.
11. To provide road-based access, land use and recreational opportunities through road maintenance and development of access to areas planned for harvest within the plan period. (The degree to which individual roads contribute to this objective will be subject to MNR District land use decisions, Fisheries Management Plan direction and the road abandonment strategy).	Met	Road use management strategy was provided in the 2004-2009 FMP and followed during its implementation. Some roads remain after operations to permit road-based access opportunities.
12. To conduct forest management activities in a manner that respects private land, parks and other land ownership or values.	Met	AOCs developed and implemented to protect known values. No issues with private land, parks and other land values found.
13. To protect identified/registered archeological and cultural heritage sites from conditions that will increase rates of deterioration, while minimizing fibre loss and archeological mitigation costs.	Met	AOCs for known and high potential cultural heritage sites developed and implemented during the term of the 2004-2009 FMP.
C. Provision of Forest Cover Objectives		
In this plan, the planning team agreed to group all management objectives relating to the provision of forest cover for any natural or environmental function in the previous (A) forest diversity objectives section.	N/A	See objectives 1-6.
Objectives relating to the provision of forest cover for social or economic benefits are included in the previous (B) social and economic objectives section.	N/A	See objectives 7-13.
D. Silvicultural Objective		
To implement planned levels of harvest, renewal and maintenance contained in this forest management plan to aid in the achievement of the thirteen specific management objectives stated under (A) forest diversity and (B) social and economic objectives section (listed above).	Met	Planned harvest levels were not achieved. 21,650 ha were renewed while 27,936 ha were harvested during the period (77%). This was very close to the planned level of 82.5%. SMA projected 30% of renewal would be intensive, 30% basic and 39% extensive. During the term 54% of renewal was intensive, 29% was basic and 17% was extensive.

APPENDIX 3 – COMPLIANCE WITH CONTRACTUAL OBLIGATIONS

The following table provides the conditions of SFL #542462 for the Trout Lake Forest. Each condition is provided on a separate row with comments by the audit team to report on the degree of attainment of the condition.

Licence Condition	Licence Holder Performance
Payment of Forestry Futures and Ontario Crown charges	Met. Payments were made as required.
Wood supply commitments, MOAs, sharing arrangements, special conditions	Met although MOAs not signed. Wood supply trade negotiated with AbitibiBowater from another of Domtar's SFLs. Commitments difficult to manage in the face of challenging market conditions.
Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of the FMPM and CFSA	Met. FMPs and AWSs generally prepared as required. ARs, including Year Ten enhanced portions, were found incomplete and of poor quality. Recommendations 18 and 19 address these concerns.
Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM	Met. FTG surveys were conducted during the term and were done in accordance to FIM. Regeneration surveys completed as well.
Wasteful practices not to be committed	Not met. Utilization good during early part of period under audit. Wasteful practices found in harvest blocks completed in last two years leading to Recommendation 7.
Natural disturbance and salvage SFL conditions must be followed	Met. Blowdown salvage was completed. Amendment for salvage area went through quickly and harvest operations were examined as part of the audit.
Protection of the licence area from pest damage, participation in pest control programs	Met. No eligible pest management program occurred during the term of the audit. A large jack pine budworm program was completed in 2009.
Withdrawals from licence area	Met. No withdrawals have occurred.
Periodic review of licensee's performance • Audit action plan and status report • Recommendation #9: Weyerhaeuser and the OMNR should cooperatively determine why Annual Reports contain inaccuracies and ensure that future annual reporting is complete, accurate, and understandable. • Recommendation #10: The Company and the OMNR must ensure that the Report of Past Forest Operations contains all information required by the Forest Management Planning Manual.	Partially met. In response to the 1999-2004 IFA, an audit action plan was prepared, approved and implemented and a status report was prepared as per SFL requirement. Two recommendations from that audit (#9 and #10) were considered by this audit team to not have been met. • Problems remain - cut and paste errors between years, trends discussion lacking, no renewal rate change discussion, and errors between text and related tables. Recommendation 18 provided to address this matter. • Numerous shortcomings for in the Year Ten AR which replaces the RPFO in the 2004 FMPM. This concern is addressed with Recommendation 19.
Payment of forest renewal charges to Forest Renewal Trust (FRT)	Met. Payment of forest renewal charges where made to the FRT during the term as required.
Forest Renewal Trust eligible silviculture work	Met. The company maintained accurate records of invoiced silvicultural work. Records included maps of silviculture work invoiced to the Forest Renewal Trust. Reviewed company invoices and maps were found to be consistent with actual conditions viewed in the field.
Forest Renewal Trust forest renewal charge analysis	Met. The renewal charge analysis did not include a forecast of eligible silviculture work, including areas that did not meet standards and require retreatment as stipulated by Section 12.3 (b) of the SFL.

Licence Condition	Licence Holder Performance
Forest Renewal Trust account minimum balance	Met. The minimum balance for the forest renewal trust account was maintained from 2004-2008 but was not met on March 31, 2009. A lump sum payment to the forest renewal fund was done in July 2009 bringing the fund above minimum balance. The minimum balance did not accurately reflect the average annual cost of renewal during the 2004-2009 term. Average silvicultural expenditures during the 2004-2009 term were 45% greater than the minimum balance.
Silviculture standards and assessment program	Met. The necessary silvicultural prescriptions were found to have been implemented so as to meet the standards described in the approved FMP. The company has in place several monitoring mechanisms to track renewed stands from establishment through to FTG. An extensive fourth year regeneration survey program provides clear direction on the development of renewed stands and highlights any required follow-up treatments. It was found that the majority of FTG areas surveyed during the term have yet to be approved by the MNR and are not included in the FRI. These areas include a back-log of FTG identified in the previous audit. Recommendation 17 is included to address this concern.
Aboriginal opportunities	Met. There are no Aboriginal communities located on the Forest. Lac Seul First Nation had a representative on the 2009-2019 FMP planning team. Pikangikum First Nations is working on developing economic opportunities.
Preparation of compliance plan	Met. Comprehensive compliance plans were developed for the 2004-2009 and 2009-2019 FMPs as were Annual Compliance Operating Plans for each AWS during the audit term.
Internal compliance prevention/education program	Met. Domtar also has a comprehensive internal compliance prevention/education program including formal SOPs for tasks that occur on the Forest. The SOPs are an integral component of Domtar's EMS program. All operators complete thorough annual EMS training that focuses on new regulations or requirements.
Compliance inspections and reporting; compliance with compliance plan	Not met. The strategic compliance plan in the 2004-2009 FMP was not followed in a number of respects. Also, many compliance reporting requirements were not met. Differing non-compliance rates between MNR and Domtar and the omission of obvious non-compliances viewed during the audit indicate that Domtar inspectors sometimes reported non-compliances as being compliant or 'in compliance with comments' during the audit term. Inconsistent compliance interpretation was also noted as a finding in the 1999-2004 IFA. Recommendations 14 and 16 are provided to address these concerns.
SFL forestry operations on mining claims	Met. Review of records at MNR office.

APPENDIX 4 – AUDIT PROCESS

The Independent Forest Audit Process and Protocol (IFAPP) was developed by MNR to provide a comprehensive and consistent method of evaluating forest management activities on Crown land. The IFAPP (2009) states that the purpose of an Independent Forest Audit is to:

a) assess to what extent forest management planning activities comply with the Forest Management Planning Manual (FMPM) and the *Crown Forest Sustainability Act (S.O. 1994, c. 25)* (CFSA);
b) assess to what extent forest management activities comply with the CFSA and with the forest management plans, the manuals approved under the CFSA and the applicable guides;
c) assess the effectiveness of forest management activities in meeting the forest management objectives set out in the forest management plan, as measured in relation to the criteria established for the audit;
d) compare the forest management activities carried out with those that were planned;
e) assess the effectiveness of any action plans implemented to remedy shortcomings revealed by a previous IFA;
f) review and assess a licensee's compliance with the terms and conditions of the forest resource licence.

The IFAPP is based on eight guiding principles and contains 158 procedures, 124 of which are applicable to the Trout Lake Forest. The audit procedure serves as a framework to provide a structured approach to evaluating whether or not forest management activities meet the requirements governing forestry practices on Crown land in Ontario. The guiding principles are:

- Commitment
- Public consultation and Aboriginal involvement
- Forest management planning
- Plan assessment and implementation
- System support
- Monitoring
- Achievement of management objectives and forest sustainability
- Contractual obligations

MNR categorized the various IFA procedures based on complexity and their potential impact on forest sustainability. The IFAPP directs the audit team to assess through sampling, per audit principle and associated criteria, the three categories of procedures as follows:

- Administrative procedures – low (L) risk: 20-30% of L procedures to be assessed
- Administrative but also having a bearing on sustainable forest management – medium (M) risk: 50-75% of M procedures to be assessed
- Procedures directly related to sustainable forest management – high (H) risk: 100% of H procedures to be assessed

The lower range of the sample scale may be considered for forests certified in accordance with a sustainable forest management standard accepted by Ontario. At the time of the audit the Trout Lake Forest was certified to the CSA standard. Table 3 summarizes the number of procedures selected by the audit team for audit based on the direction provided by the IFAPP.

Table 3: Summary of the number of procedures selected by the audit team for audit based on direction provided in the IFAPP.

Principle	Procedures Audited by Risk Category							Comments
	Low Risk			Medium Risk			High Risk	
	Applicable (#)	Selected (#)	% Audited	Applicable (#)	Selected (#)	% Audited	Audited (#) (100% Audited)	
1. Commitment	0	-	0	2	0	0	0	At the time of the audit the Forest was certified to CSA standards. Procedures *not* audited: 1.1.1, 1.2.1
2. Public Consultation & Aboriginal Involvement	0	-	0	6	5	83	2	Procedure *not* audited: 2.6.1
3. Forest Management Planning	6	2	33	12	10	83	39	Procedures *not* audited: 3.2.1.1, 3.2.1.2, 3.2.2.1, 3.6.2.2, 3.9.2.1, 3.9.3.2
4. Plan Assessment & Implementation	1	1	100	1	1	100	9	
5. System Support	0	-	0	1	1	100	1	Procedure *not* audited: 5.1.1
6. Monitoring	0	-	0	7	4	57	11	Procedures *not* audited: 6.4.1, 6.4.2, 6.4.3
7. Achievement of Management Objectives & Forest Sustainability	0	-	0	2	1	50	13	Procedure *not* audited: 7.1.7
8. Contractual Obligations	0	-	0	3	2	66	8	Procedure *not* audited: 8.1.8.1
Totals	7	3	43	34	24	71	83	

The audit process for the Forest consisted of seven components:

1. Audit Plan: KBM prepared an audit plan that described the schedule of audit activities, audit team members and their qualifications, audit participants, and auditing methods. The audit plan was submitted to MNR, Domtar, the Forestry Futures Trust Committee (FFTC), and the Chair of the Red Lake District Resource Management Advisory Committee (herein referred to as LCC).

2. Public Consultation: Through individual letters mailed in early May, 2009, KBM advised all current LCC members that an audit will be taking place and invited their input. The lead auditor attended an LCC meeting in early May, 2009 to discuss the audit and any concerns the LCC members might have about the Forest including areas on the Forest that the audit should examine.

   Newspaper ads were published in two area newspapers prior to the pre-audit meeting advising the public of the upcoming audit: the *Northern Sun News* and the *Wawatay News*. As per the requirements of the IFAPP, the notices identified the purpose of the audit and invited the public to submit comments to the LCC Chair or directly to KBM.

   KBM also prepared a one-page survey to solicit public input to the audit process. The survey, in addition to a general letter informing contacts of the audit, was mailed to all businesses and organizations, and a representative sample of one-third of the individuals listed in the Forest

Management Plan (FMP) mailing list (as provided by MNR Red Lake District). This list includes tourist operators, private land owners, trappers, baitfish licence holders, bear management area holders, local municipalities and government agencies, independent loggers, logging contractors, shareholders and other special interest groups. The survey was also available to the general public on the KBM website (www.kbm.on.ca).

3. Aboriginal Engagement: MNR Red Lake District provided KBM with contact information for each Aboriginal Community within or adjacent to the Trout Lake Forest, and/or who participate in activities on the Forest. A letter was sent out to each of the Aboriginal communities on the contact list inviting them to participate in the IFA of the Trout Lake Forest. The letter asked for their input and encouraged them to contact KBM if they wish to participate in the audit or if they require more information before making a decision. KBM also offered to arrange in-person meetings with each of these Aboriginal Communities. Follow-up phone calls were made when necessary to encourage a response.

4. Field Site Selection: The audit team conducted a preliminary site selection prior to meeting with Domtar and MNR staff. Annual Work Schedules (AWSs) and Annual Reports (ARs) were used to ascertain the amount and type of forest operations carried out on the Forest during the audit period. A stratified random sample of sites was then selected to ensure that selected sites were representative of a cross section of all activities conducted on the Forest during the audit period. A pre-audit meeting was held in Ear Falls on May 5, 2009. Part of the pre-audit site visit was spent working with Domtar and MNR to finalize the preliminary site selection and develop an itinerary for the field portion of the audit.

5. Pre-audit Document Review: Prior to the five-day site visit, the audit team reviewed documents provided by Domtar and MNR, including the:
    a. Trout Lake Forest 2004-2024 and 2009-2019 FMPs
    b. Annual Work Schedules and Annual Reports associated with the above FMPs
    c. Comparison and Trend Analysis of Planned versus Actual Forest Operations Report (TAR)
    d. Trout Lake Forest Independent Forest Audit 1999-2004 Report
    e. Trout Lake Forest 1999-2004 Independent Forest Audit Action Plan and the Trout Lake Forest 1999-2004 Independent Forest Audit Action Plan Status Report.

    The audit team also developed a questionnaire that was circulated to planning team members and other Domtar and MNR District staff prior to the on-site audit to assess their perceptions regarding the effectiveness of specific components of forest management on the Trout Lake Forest. The results of the survey provided additional focus to IFAPP prescribed interview procedures that occurred on site.

6. On-Site Audit: The objectives of the field site visits were to confirm that activities were conducted according to plan, that they conformed to provincial laws, regulations, and guidelines, and that they were effective. The opening meeting was held in Red Lake on June 22, 2009. During the on-site visit portion of this audit, the audit team conducted interviews with staff of Domtar and MNR, with LCC members. The audit team examined documents, records and maps at the Domtar and MNR offices, and spent two days in the field viewing selected sites with representatives of Domtar, MNR District, MNR Forest Management Branch, and a representative of the Forestry Futures Trust Committee.

    Many stops provided the opportunity to audit multiple activities such as harvesting, renewal, values protection, etc. KBM committed to, and surpassed, a minimum of a 10% sampling of key activities and operations conducted on the Forest during the audit period. The 10% minimum sampling intensity is prescribed by the 2009 IFAPP. Table 4 presents the actual sampling intensity for each forestry activity examined on the ground as part of the field site visits. Due to access and time restraints, the audit team relied on a helicopter to reach many of the selected

field sites. The helicopter also provided opportunities for overviews of the subject areas, enabling overall examination of target blocks.

The closing meeting was held in Ear Falls on June 26, 2009. This meeting provided a forum for the audit team to present and discuss preliminary audit findings with Domtar, MNR and members of the LCC.

Table 4: Audit sampling intensity for the Trout Lake Forest.

Activity	Total Area/Number[1] (2004-2009)	Area/Number Sampled	Percent Sampled
Harvest (ha)	29,375.0	3,440.6	11.7
Renewal & Maintenance (ha)	34,976.9	4,115.4	11.8
Free–to-Grow (ha)	15,958.8	1,617.5	10.1
Area of Concern Categories[2] (#)	35	8	22.9
Road Construction (km)	127.4	36.4	28.5
Specified Procedures Review[3] (ha)	6,419.1	816.5	12.7

[1] The amount of area for the 2008-2009 year has been estimated from the average annual value of the previous four years.
[2] Area of Concern categories refer to the different types of AOCs present on the Forest. Examples include riparian reserves, cold water fisheries, eagle nests, etc. More than one AOC was associated with some sites selected for review of harvest and renewal operations.
[3] The Specified Procedures Review involved the verification of maps, records, and fieldwork associated with Forest Renewal Trust Account expenditures for 2006-2007.

7. Audit Report: The audit results are presented in this report following a brief description of the audit process and the forest licence area under review. Within the report, the audit team has made recommendations to address instances of a non-conformance to a law and/or policy, or an identified lack of effectiveness in forest management activities. Recommendations from this audit directed at the management unit must be addressed in an action plan developed by Domtar and MNR Red Lake District, with input and review by MNR Regional and Forest Management Branch representatives. Recommendations from this audit that are applicable to matters of forest management within the scope of responsibilities of MNR Forest Management Branch will be addressed as part of an Annual Provincial Action Plan.

   Suggestions are no longer highlighted in audit reports, nor will they be addressed in action plans. Any suggestions of the audit team have been incorporated within the regular text of this report.

Public Response

Ten responses to the public notices and survey were received from the public. All comments and applicable audit team responses are summarized in Table 5.

Table 5: Summary of public comments received and applicable audit team response.

	Comment or Concern	Audit Team Response
1	Respondent has concerns regarding clearcut size; poor trapper relations; *Endangered Species Act (S.O. 2007, c. 6)*; caribou mosaic approach; impact of implementing the caribou mosaic on the management of other wildlife species	Stakeholder relations discussed in this audit. No comment required for other points.
2	Respondent has concerns with tree tops being left on site rather than being chipped and identified three locations where 8 foot wood piles were left to rot. Also suggested forestry operations left oil spills that were not cleaned up	Utilization concerns reported as part of this audit.
3	Respondent has concerns that cutovers are too large. Negotiated with Domtar for a 150 metre buffer zone to protect cabin.	No comment required.
4	Respondent identified four areas of poor management. Respondent also has concerns with a lack of good communication on the part of forest managers.	Stakeholder relations discussed in this audit.
5	Respondent has no comments.	No comment required.
6	Respondent identified an area where logs were piled and left to rot. Also concerned with an apparent lack of respect for other stakeholders by Domtar.	Utilization concerns reported as part of this audit.
7	Respondent identified an area where good management practices occurred. Also described a good relationship with a local contractor and the previous management company, Weyerhaeuser.	No comment required.
8	Respondent has concerns over too many access roads.	Roads strategy recommended in this audit.
9	Respondent identified concerns over (a) utilization (specifically poplar); (b) lack of a sincere commitment to third-party certification by the company; (c) tenure system in Ontario	a) Utilization concerns reported as part of this audit. b) No comment required. c) No comment required.
10	Respondent identified concerns with the negative impact the caribou mosaic is having on local traplines and the inability and/or unwillingness of MNR and Domtar to work with local trappers to find a solution acceptable to all parties.	Stakeholder relations discussed in this audit.

Local Citizens' Advisory Committee

Letters were mailed to all current members of the LCC to notify them of the audit and invite their input. The lead auditor met with LCC members present at their meeting of May 4, 2009 to discuss their involvement in the development of the Trout Lake Forest 2009-2019 FMP, whether they had any concerns to raise including specific areas or locations that the audit team should examine. A member of the LCC attended the pre-audit meeting in Ear Falls on May 5, 2009. One LCC member attended the audit opening meeting; three LCC members participated in one field day; and two LCC members attended the audit closing meeting. Several LCC members were interviewed. Part of the interview included whether in their view the LCC has achieved its purpose, and if there are areas where the LCC may be improved.

Summary of LCC comments:

LCC members generally felt that the committee was effective in meeting its roles and responsibilities. Many members had long history of involvement in the committee.

Concerns were expressed about how some of the issues brought forth by the public were handled by both the company and MNR, in particular trappers' issues. Majority of member interviewed agreed that these issues were not handled well which, in their view, led to non-endorsement of the 2009-2019 FMP.

Aboriginal Communities

A letter was mailed to each of the Aboriginal communities on the contact list inviting them to participate in the audit. The letter explained that their input is welcomed and encouraged them to contact KBM if they wish to participate in the audit or if they require more information before making a decision. KBM did not receive any responses to the letter. Additional follow-up phone calls were made to each community with no response.

Overlapping Licensees, Contractors and Commitment Holders

All businesses listed in the FMP mailing list provided by Red Lake MNR were sent the one-page KBM survey and letter soliciting input to the audit. No comments were received from any of these groups. Commitment holders were contacted by telephone to discuss their commitments from the Trout Lake Forest.

SFL Holder

Interviews were held with the Area Leader, Operations Forester, Silviculture Forester/Plan Author, and the Northwestern Ontario Operations Manager. The Operations Forester accompanied members of the audit team during the helicopter field day. The Area Leader, Operations Forester, Silviculture Forester accompanied the audit team on the truck field day. The auditor team appreciates Domtar's efforts in providing the auditors with information in an organized manner, particularly the field books which allowed the auditors to make informed assessments while in the field.

Ministry of Natural Resources

Interviews were held with the District Manager, Area Supervisor-Red Lake South, Area Forester-Red Lake South, Area Biologist, and Area Technician. MNR District personnel also accompanied the audit team in the field for one day including the Area Forester, the Area Biologist, and Area Technician. The audit opening and closing meetings were attended by MNR District personnel, including the District Manager.

One MNR Northwest Region representative participated in the pre-audit meeting via teleconference.

One representative from MNR Forest Management Branch attended one field day and participated in the audit opening and closing meetings via teleconference.

One representative from the Forestry Futures Trust Committee participated in the opening meeting via teleconference and attended one field day.

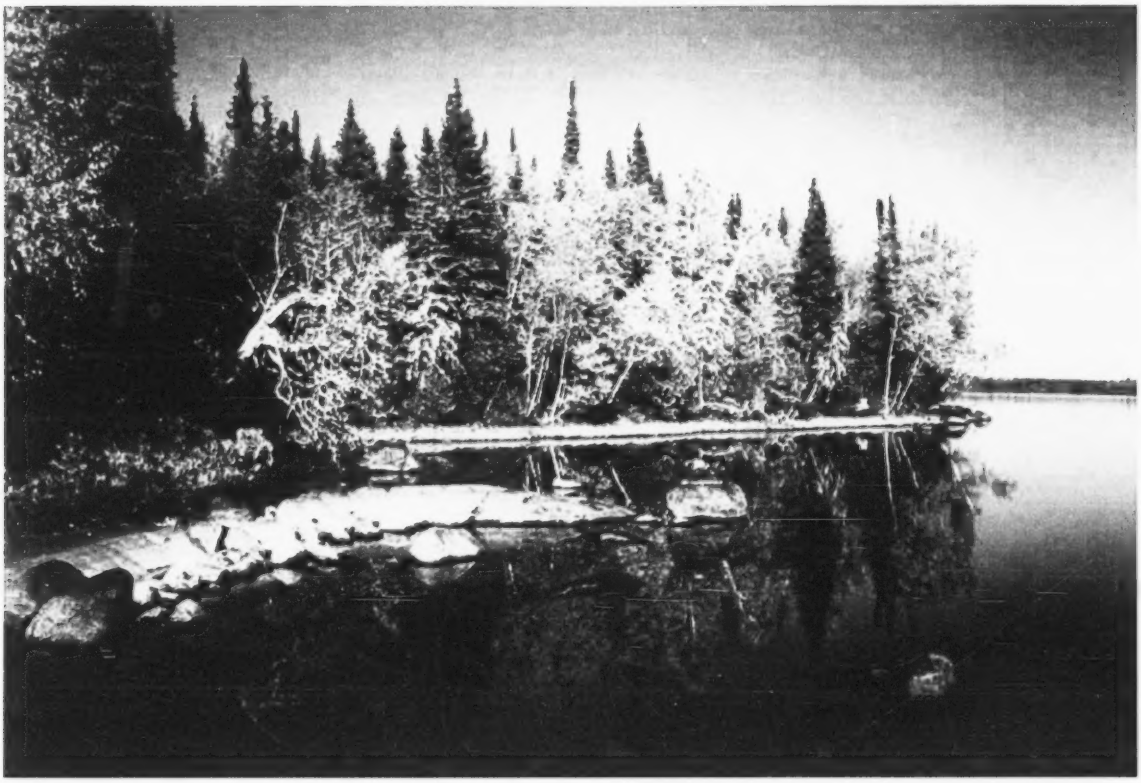
APPENDIX 5 – LIST OF ACRONYMS

AOC	Area Of Concern
AR	Annual Report
AWS	Annual Work Schedule
B&S	Barren and Scattered
CFSA	Crown Forest Sustainability Act
CSA	Canadian Standards Association
CTL	Cut-To-Length
EMS	Environmental Management System
FFTC	Forestry Futures Trust Committee
FFTF	Forestry Futures Trust Fund
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FOIP	Forest Operations Information Program
FOIR	Forest Operations Inspections Report
FOP	Forest Operations Prescription
FRI	Forest Resource Inventory
FRT	Forest Renewal Trust
FTG	Free-To-Grow
GIS	Geographic Information System
IEA	Individual Environmental Assessment
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
LCC	Local Citizens Committee
LTMD	Long Term Management Direction
MNR	Ministry of Natural Resources
NDPEG	Natural Disturbance Pattern Emulation Guidelines
NSR	Not Sufficiently or Satisfactorily Restocked or Regenerated
RPF	Registered Professional Forester
RSA	Resource Stewardship Agreement
SAP	Supplemental Aerial Photography
SFL	Sustainable Forest Licence
SGR	Silviculture Ground Rule
SMA	Selected Management Alternative
SOP	Standard Operating Procedure

APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

Name/Role	Responsibilities	Credentials
Mr. Peter Higgelke; • Lead Auditor • Wildlife/Ecology Auditor	Overall audit coordination and oversight of activities of the audit team; review of management objectives, contractual obligations, and forest sustainability; inspect AOC documentation and practices; audit aspects of forest management related to environmental protection and wildlife practices.	R.P.F., M.Sc.F.; 29 years combined forestry experience in Ontario, Quebec, and Germany; experience as practicing consultant; completed five-day ISO 14001 EMS Lead Auditor training; Lead Auditor on 3 IFAs, Wildlife Auditor on one Forest Management Agreement Review and six IFAs; Harvest Auditor on six previous IFAs.
Mr. Laird Van Damme • Planning Auditor	Assess adherence to forest management planning requirements; assess compliance and monitoring programs; assist in assessment of achievement of management objectives and forest sustainability.	R.P.F., M.Sc.F.; 23 years experience as a practising forester, educator and consultant; primary areas of practice are silviculture, forest management and forest research; completed five-day ISO 14001 EMS Lead Auditor training; worked on 17 previous IFAs as either Lead, Harvest or Planning Auditor.
Mr. Brad Chaulk • Harvest Auditor	Assess access and harvest planning and implementation; assist in assessment of achievement of management objectives and forest sustainability.	R.P.F., H.B.Sc.F.; 17 years of forestry experience including forest management and operational planning; auditor on 13 previous IFAs.
Mr. Keith Hautala • Modeling Auditor	Review SFMM strategic planning; assist in assessment of achievement of management objectives and forest sustainability.	M.Sc.F.; 11 years of forestry experience in Ontario; Modeling Auditor on eight previous IFAs; Secretariat on three previous IFAs.
Mr. Stephane Audet • Silviculture Auditor	Assess silvicultural planning and operations; assist in assessment of achievement of management objectives and forest sustainability.	R.P.F., H.B.Sc.F.; nine years of forestry experience in Ontario; regeneration surveys, operational cruising, FTG surveys; seven years site preparation supervision; assistance in FMP and AWS preparation; first IFA guided Brad Chaulk and Peter Higgelke
Ms. Terri Dawyd • Public Consultation & Aboriginal Involvement Auditor • Audit Secretariat	Assess various components of the audit including public consultation and Aboriginal involvement in forest management planning, and elements of forest management planning, system support, monitoring, and contractual obligations; provide general support in the execution of the IFA including logistics, evidence gathering, and report development.	H.B.Sc.F. candidate; 8 years of forestry experience including technical field work, Aboriginal forestry project manager; served as Secretariat on 5 previous IFAs and has audited public consultation and Aboriginal involvement on 2 previous IFAs.

APPENDIX 7 – TREND ANALYSIS



Comparison and Trend Analysis Of Planned vs. Actual Forest Operations Report

Management Unit 120

Trout Lake Forest

Domtar

Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report

for the

TROUT LAKE FOREST

Domtar Pulp and Paper Products Inc.

I hereby certify that this Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report is complete and accurate, and has been prepared to the best of my professional skill and judgement, in accordance with the requirements of the *Independent Forest Audit Process and Protocol, February 2008*

Janet Lane, RPF — November 12, 2009

Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report.

Introduction

The report examines forest management activities over the current five year planning term (2004-2009) and the previous two five year planning terms (1999-2004 and 1994-1999). The current five year Forest Management Plan (FMP) (2004-2009) was authored by Gary Wearne, R.P.F., Weyerhaeuser Company and the 1999-2004 FMP was authored by David Salter, R.P.F., Weyerhaeuser Canada Ltd. and were written under the regulation of the 1996 Forest Management Planning Manual.

The 1994-1999 TMP was authored by David Salter, R.P.F., Avenor Inc. and was written under regulation of the 1985 Timber Management Planning Manual. The Trout Lake Forest is currently managed under SFL # 542461 granted by the Minister of Natural Resources.

Table 1: Summary of Total Area under Management
(Past and Current Plans - by Working Group)

Since the 1999 FMP a complete re-inventory of the forest resources inventory (FRI), of the Trout Lake Forest, has been completed. The current FMP (2004-2009) is based on this new inventory.

The figures for the first term are from TMP-4.8.2 which reflects the Crown forest area (ownership 1). The figures in table 1 for the 1999-2004 term come from FMP- 1 and 2 and reflect only the crown managed land. For the 2004-2009 term FMP 1a and 2 were used for production of table 1 and FMP 1 was used to supplement the discussion below as the rationale for the change in the total forest area under crown management.

The managed crown area changed significantly in the 2004 FMP for a number of reasons. Some reasons include: increased patent land which decreased managed land by 339 hectares, federal land reclassified as managed land which increased by 9 hectares, boundary shift increased landbase by 579 hectares and previous to 2004, the managed crown area did not include the Lac Seul shoreline (24,989 hectares) as it was classified as Unmanaged in the land base and is now considered managed. The 1999 FMP included area as Managed land that has since been designated as Ontario Living Legacy Park area. These areas have been classified as Park (83,751 ha) in the 2004 FMP planning inventory (FMP-1a) but remain as Managed, Crown land in FMP-1. (until ownership classification was officially changed). This significant change will be noted in the 2009 FMP.

The planning forest resources inventory (PFRI) used for the 2004-2009 forest management plan utilized Crown land ownership grouping to reflect similar management intent of the forest. The common management considerations given to Park (MNR ownership 5), Unmanaged (MNR ownership 2) and the Ontario's Living Legacy areas (currently MNR ownership 1 until regulation is finalized) justified the classification of all

these areas as Park in the PFRI. These areas do not contribute to the available harvest area for this plan but are considered in terms of the current and projected wildlife habitat they contain. This adjusted planning inventory is summarized in Table FMP-1b and was used throughout the remainder of the forest management plan.

Other reasons for the change in forested area are of a more minor nature and include: differences in typing based on new FRI, projection changes from Lambert to OBM, and changes in the management unit boundary lines to better reflect SFL area.

Production forest categories changed throughout the three terms defined. In the 1994-1999 TMP, Barren and Scattered (B&S) included areas that were harvested but not yet considered regenerated. This changed for the 1999-2004 FMP; areas recently harvested were broken out and included in the depleted category.

The inventory was sorted to determine the correct classification of Barren and Scattered and recently depleted stands. Areas that were classified as Barren and Scattered were reassessed to determine if they were truly Barren and Scattered areas, or if they were recent depletions that may or may not have received silvicultural treatment prior to plan start. If areas had, or were expected to receive silvicultural treatment prior to the start of this FMP, they were re-categorized into the projected forest unit (and silvicultural intensity) in the 1-10 year old age class. True Barren and Scattered area was left as such in the PFRI. If areas were recent depletions, they were categorized as depleted in Table FMP-1, but reclassified based on silvicultural treatments in Table FMP-1a. Therefore, no area is classified as "depleted" in Table FMP-1a, as it has been more accurately classified as forested area for modeling purposed. Table FMP-1a utilizes the SFMMOWN ownership classification for data sorting. This accounts for the majority of the differences in the area within production forest over the plan terms.

Another significant reason for the changes over the plan terms is how the forest stands were grouped. This grouping changed for each of the plans. The most significant of these is the change in area within the "B" (balsam fir) working group. The majority of balsam fir stands have been reclassified under other groupings based on data from the new inventory. The new inventory shows that the majority of balsam fir dominant stands no longer exist, due to stand progression by natural and insect mortality. This has resulted in a decline in the balsam fir component within the forest and allowed for reclassification of these stands into other groupings that better reflect species associations.

Table 2 – Description of Forest Units

Table 2 summarizes the transition of Forest Unit classifications over the three planning terms. The current plan (2004-2009) is based on 12 forest units, which is an increase in three forest units from the 1999-2004 plan. Although there were no management problems evident during the 1999-2004 term that warranted a change in forest unit divisions, changes to the provincial forest management planning process and provincial

policy precipitated the finer division of forest units for the 2004-2009 term. Historically, forest units were based on working group concept (dominant species by basal area), which grouped mixedwood stands with pure stands within a single forest unit. This resulted in considerable variations of yield, succession, and productivity estimates within a single forest unit. The 1994-1999 plan is based on this working group concept. The 2004-2009 plan has forest units that were established to separate the purer forest conditions from the more variable mixedwood conditions. The new FRI in 2001 allowed for the forest to be sorted by ecosite, as well as, species composition and site class. This additional sorting capability allowed for more refined management and modeling. Additionally, forest units that contained very small amounts of area were grouped for ease of modeling. Tables 2a, 2b, and 2c illustrate the forest units as they pertain to each planning term.

Table 3 – Summary of Planned and Actual Harvest Volumes

Table 3 summarizes the level of harvest volume for both planned volume and harvest volume on the Trout Lake Forest. The harvest level of the 1994-1999 and 1999-2004 terms were very low and was consistent with the under cut of the forest at 66% and 63% of actual versus planned harvest. The 2004-2009 is data representing an average of four years of harvest (2004-2008) and shows volumes at 75% actual versus planned volumes. The cutting capacity has increased on the license at the same time there is a reduction in the reliance on purchase wood. This change in realizing harvest volumes should become a trend that will become evident over the next few years. There are several factors that have resulted in this change. First and foremost is the focus on reducing costs. Wood purchased on the open market is significantly more expensive than wood from the Company license and is inconsistent in supply. The company has focused on increasing its harvest contractor's efficiencies by increasing their size to help reduce their costs and in turn their rates for harvesting timber. Another reason for realizing harvest volumes is that the company had secured fibre sales to outside facilities. The current economic downturn will depress the volumes harvested for the next few years as demand for forest products lag.

The volumes for the 1999-2004 FMP are FRI volumes from the mapped allocated harvest areas that reflect the AHA in the FMP. The allocations accommodated the MOA with Abitibi Bowater, Ainsworth Lumber Company, L,K,H,G Logging and Weyerhaeuser Trus Joist which, as well as, the requirements of the Dryden Pulp and Paper complex and the Ear Falls Sawmill. Harvest levels did not reach planned levels partially due to external sources not exercising their respective MOA's.

Table 4 – Summary of Planned and Actual Depletion Area

This table illustrates the progressive increase in harvest area off of the Trout Lake Forest over the terms beginning in 1994 and ending in 2004. The actual area harvested over the past terms did not meet the plan targets.

The 1994-1999 terms planned harvest was 4079 ha with an achievement of 3072 ha or 75 %. Again the company was undergoing a time of change, pulping of its own hardwood vs. purchasing from outside suppliers and the construction of the Ear Falls Sawmill.

During the 1999-2004 term, the average depletion per year was 5,218 ha. compared to a plan of 7236 ha., or 72%. The depletion area was less than planned due to external sources not exercising MOA's. Harvest levels attained were sufficient to supply the needs of the dependant facilities and the forest management plan objectives related to harvest plan volume.

The 2004-2009 term has seen a slight increase in realizing planned harvest levels. The 2004-2008 year saw an annual depletion of 5,587 ha. This represents 69% harvest of a planned 8070 ha. This increase is primarily due to a couple of reasons. The first is the completion of the Ear Falls sawmill, and its ability to run efficiently and utilize its planned volume. Second is the continued reduction in reliance on external wood sources (purchase wood). The external MOA's are not being exercised likely due to the distance to facilities.

Considering the variance that existed between harvested stand volume and forecast stand volume in the past two terms, the current terms allocations were set to provide the flexibility needed to accommodate all existing commitments.

Table 5 – Summary of Managed Productive Forest by Forest Unit

Table 5b & 5c are actually FMP 9 from the 2004-2009 and 1999-2004 FMP's respectively. Table 5a is a reproduction of Tables 4.8.2 and 4.9. The 2004-2009 FMP utilized new FRI and more concise descriptions of Forest Units then the 1999-2004 FMP, to compound the difficulty in the comparisons; the 1994-1999 term was written under the regulation of the 1985 Timber Management Planning Manual and used working groups.

During the three periods the methods of reporting depletions changed. For the 2004-2009 harvest depletions were placed in their respective productive Forest Unit. Previously, harvest depletions were reported as either "Barren and Scattered" or "Depleted" and were not considered part of the productive forest until such time as they were declared Free-To-Grow. The amount of barren and scattered also changed over this time, impacting the amount of productive forest that is reported. In some cases the B&S moved to non-productive sites and in others it was moved to productive sites. This is most evident in the 2004-2009 plan when compared to the 1999-2004 plan due to the new inventory.

Table 6 – Summary Report of Renewal, Tending, and Protection Operations

This table is intended to compare planned and actual renewal, tending and protection operations. The Trout Lake Forest has had no protection activities or uneven aged management renewal activities either planned or implemented for the duration of all three terms being discussed.

During the 1994-1999 term 15,360 ha of area was harvested, and 9143 ha were regenerated. Although the figure seems to fall short of the total, it reflects the average yearly harvest levels which increased years 1 to 5 given the delay for implementation of silviculture. Of the 9143 hectares, approximately 82% was regenerated artificially via direct seeding (25%), planting (49%), scarification (2%), and shelter cones (1%). Natural regeneration by clearcut and seedtree accounted for 18 % of the total. There was 8678 ha of actual mechanical site preparation versus the 15000 ha planned. Actual tending operations accounted for 2699 ha of the 2207 planned for the term. The renewal program during this term followed past renewal practices by the Company dating back to the late 1980's when aerial seeding was a significant part of the program and seedlings production/availability was limited. Aerial seeding has been a successful renewal program in the North West region since the 1960's. Scarification consisted of a very small program carried out on cut and skid sites where trees had been processed at the stump and a seed source from the cones was available. The availability of these sites was limited due to the large majority of cutover being mechanically processed at roadside.

During the 1999-2004 term 26,090 ha of area was harvested, and 24,584 ha were regenerated. Of the 24,584 hectares, approximately 88% was regenerated artificially via direct seeding (13%), planting (73%), and scarification (1%). The natural regeneration accounting for 12% of the total was natural regeneration by clearcut and seedtree. There was 18,259 ha of actual mechanical site preparation completed versus the 21,670 ha planned. No chemical site preparation was used but prescribed burn was done on 5,681 hectares. There were 4929 ha. of chemical tending operations that occurred versus the 1400 ha planned. During this term the Company accelerated its planting program and seedling orders versus the historical trend. This resulted in a reduction in the aerial seeding program. This was due in part to increased harvesting in competitive sites where planting was more suitable than seeding to achieve seedling survival. The Company initiated an annual chemical tending program during this period to protect the investment.

During the first 4 years of the 2004-2009 plan an average of 27,935 ha of area was harvested, and 15,136 ha were regenerated. Of that 15,136 approximately 80% was regenerated artificially. Of the artificially regenerated area direct seeding (32%) and planting (68%) were the methods employed. The natural regeneration accounting for 20 % of the total was natural regeneration by clearcut. In the term of this plan, a total of 67 hectares were regenerated by protecting advanced regeneration (CLAAG). The artificial regeneration is higher than the planned amount and the natural is lower than the planned amount however it must be noted that area harvested in the plan term will be treated or declared natural into the next plan. There was 11,140 ha of actual mechanical site preparation versus the 11,659 ha planned. Only 66 hectares total were site prepared using chemical treatments. Actual tending operations accounted for 1,515 ha compared to the 10,574 hectares planned for the term. It is anticipated that the hectares regenerated within the term of the plan will be tended if necessary in the next plan term. The preference towards utilizing chemical for tending programs versus chemical site preparation continued in this term. Established regeneration areas are monitored on an ongoing basis

for potential chemical tending and it is only prescribed if required to achieve silvicultural success.

The Company's current and proposed renewal program on the Trout Lake Forest for the remaining term of the 2004 plan is to move more towards historical practices. Since the late 1980's, aerial seeding was done on all suitable sites versus a large scale planting program, Seedling orders and planting densities will also be reduced by utilizing the natural pine and spruce regeneration that is occurring on many of the harvested upland conifer sites. This natural conifer regeneration has been identified through field viewing and the Company's regeneration program. The surveys are conducted four years after harvest and the results have identified ecosites that have a high probability of abundant natural regeneration. Harvested areas that were dominate to hardwood forest units will be scheduled for natural regeneration to occur where it will not increase total hardwood stands in the caribou management areas. Regeneration concerns identified through field audits and the regeneration surveys identifying potential fill planting or tending followup are assessed and implemented in the appropriate AWS if required. The intent is to meet FMP targets and take advantage of natural regeneration and to achieve cost savings associated with these changes.

Table 7 – Harvested Area Successfully Regenerated – Summary of All Forest Units

This table is intended to reflect the renewal success of areas based on their proposed future forest unit. This data was difficult to compile due to the magnitude of the information required.

The figures presented summarize the regenerated areas with the harvest year being between 1994 and 1999. From 1994 - 1999 the harvest levels were only beginning to increase and the implementation of high cost intensive silviculture treatments such as mechanical site preparation and planting were prevalent.

A total of 16,330 ha were surveyed. This is 85 ha less than what was harvested from 1994 – 1999 (16,415 hectares). Note that areas assessed for FTG are completed on harvest sites approximately ten years post harvest. Therefore the hectarage of the areas assessed do not align with the harvested hectarage of this report term. The Company was on an aggressive FTG assessment program during 2008 and these areas have not all been accepted by the MNR. They will be field checked in the 2009 field season. Of the 16,330 ha surveyed 15,496 ha or 95 % was deemed successfully regenerated. The remaining 805 ha were deemed to be NSR, and may simply require more time to reach the height standard. Areas not available for regeneration during this term equal approximately 84 ha which is made up of roads and landings. Based on the high level of silviculture success, the treatments were appropriately applied and as a result have yielded exceptional future stands.

The forest units were classified by leading species in the 1994 – 1999 FMP. The actual harvest was 44.3 % jack pine dominant, 38.9 % black spruce dominant, and 16.8 %

poplar dominant. The regenerated stands from the FTG surveys are classified 64.4 % jack pine working group, 25.2 % spruce working group and 10.4% poplar working group. It is apparent that aerial seeding was very successful in increasing the amount of jack pine on the landscape and reducing the spruce and poplar working groups. The conversion of spruce and, to a lesser extent poplar, to jack pine may actually mirror a natural trend that would happen after fire. The species conversion also supports caribou habitat and this is an important wildlife species in the forest.

Domtar is current with the proposed FMP schedule for FTG assessment time frame requirements versus age of harvest/renewal. The silviculture groundrules for the 2004-2009 plan changed considerably from the 1999-2004 term, where many forest units have had an increase in the number of years before a stand is targeted to reach FTG status.

A plan will be developed for those areas previously assessed as not meeting FTG standards (areas requiring additional years to reach acceptable FTG height requirements) for followup field assessment and possible classification as FTG.

During this report term the Company has done well at meeting the FMP Renewal and Maintenance Objectives of the 1994-1999 plan.
As per Objective 1: To economically regenerate depleted areas to desired species through environmentally sound Silvicultural practices i.e. section ii) Regeneration treatments will follow harvesting as promptly as is feasible and section iv) silviculturally treated areas will be surveyed and monitored to measure success of treatments. Objective 2: To maintain or increase the productivity of pulpwood stands as well as maintain or increase the production area of desired species.

The 1999-2004 FMP had a limited number of goals with respect to renewal and tending. Objective #1 To provide a sustainable, economical and environmentally sound supply of timber to local forest industry in Ear Falls, Dryden, Red lake and Kenora. Under this objective a limit on not yet FTG stands inventory of 7 years depletion, increase in red and white pine, 70 % regenerated to high yield sawlog stands, limit of 10% of the pine and spruce stands LFN, and ensure that silviculture expenditures not to exceed revenues to the Renewal Fund.

Objective #10 The restoration of red pine where suitable to meet old growth targets in 120 years was the only specific objective. During 1999-2004, 31,000 red pine were planted.

As evidenced in Table 6, abundant renewal was undertaken when compared to the planned harvest level. Less natural regeneration took place more artificial regeneration and tending were done.

Silviculture activities are on track to meet the planned to meet 2004-2009 FMP the Silviculture Objectives of the plan. As per Objective B 7. Sustained wood supply: To maintain or increase the current predictable and continuous supply of wood products to the forest industry at a competitive cost from the Trout Lake Forest by actively

participating in tree improvement ensuring prompt reforestation, setting adequate renewal fund rates, collecting adequate cones, maintaining a tending program and taking advantage of natural regeneration through seed trees and careful logging practices. A summary of the renewal with the 2008/09 Annual Report will indicate the actual activities done during the term of the plan. An analysis of the hectares harvested and renewed using the GIS would indicate the actual treatments on the 2004 – 2009 harvest areas.

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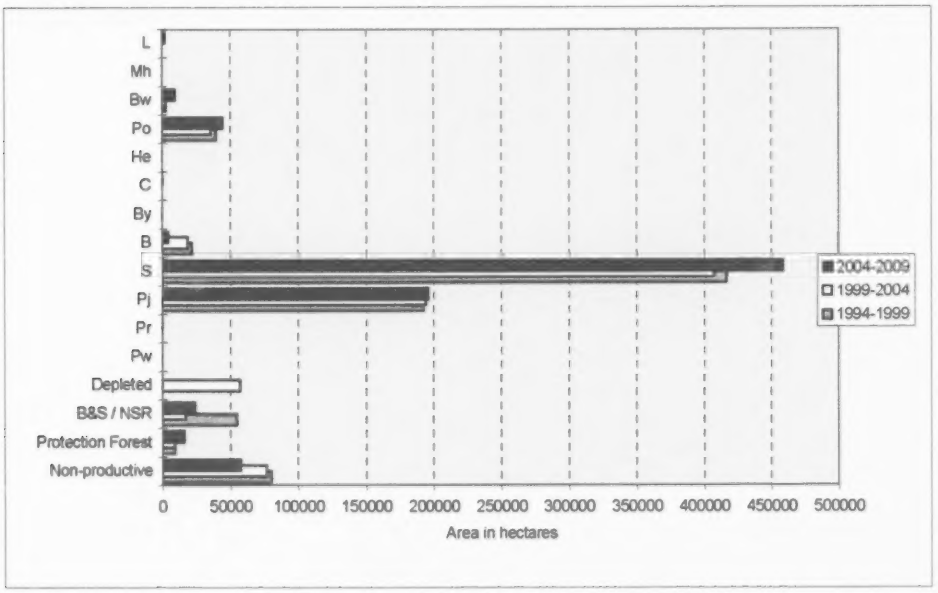
Table 1 - Summary of Total Area Under Management

Past and Current Plans - Crown Managed

MU: Trout Lake Forest

Land Type		Plan Term	Area in hectares: Past Plans 1994-1999	Past Plans 1999-2004	Current 2004-2009
Non-Forested					
Other Land			1,560	1,694	5,115
Forested					
Non-productive			79,938	76,834	57,412
Productive					
Protection			8,994	8,828	15,711
Production Forest					
	B&S / NSR / Below Regen Standard		54,499	17,331	23,946
	Depleted / Recent Disturbance		-	57,089	-
	Forest Stands by Working Group or Provincial Forest Type				
	Pw		-	-	11
	Pr		-	-	129
	Pj		192,196	194,042	195,616
	S		416,393	407,344	458,346
	B		21,751	18,997	4,243
	By		-	-	
	C		-	-	171
	He		-	-	11
	Po		39,858	35,793	44,491
	Bw		2,853	2,762	9,659
	Mh		-	-	
	L		-	65	1,739
Total Production Forest			727,550	733,423	738,361
Total Forested Land			816,482	819,085	811,485



Source: 2004 FMP FMPM Table FMP-1a, FMP-2
1999 FMP FMPM Table FMP-1, FMP-2
1994 FMP TMPM Table 4.8.2

Major landbase changes include an increase in the protection forest as Ontario Living Legacy Park conservation reserve creation reclassified 85,751 ha.as parks and the inclusion of the Lac Seul shoreline (24,989 ha.) as managed crown land. Other changes such as increase in patent land, federal land reclassification and boundary shifts were minor in nature.

Table 2 - DESCRIPTION OF FOREST UNITS (FMP-8)

Table 2a Plan Term: April 1, 2004 to March 31, 2009

Forest Unit		Forest Type	Main Working Group	Main Site	Silvicultural System	FRI Parameters & Criteria	Additional Information
Code	Name						
PRWMX	Red Pine and White Pine Mix	PRW - Red Pine & White Pine	Pr	ES 15, 18	Clearcut	Sort Order 1: Pw+Pr >= 0.4	
SHALL	Shallow All	MCU - Conifer Upland	Pj	ES 12	Clearcut	Sort Order 2: Ecosite = 11 or 12	
SBLOW	Spruce Lowland	MCL - Conifer Lowland	Sb	ES 36, 35, 34	Clearcut	Sort Order 3: Sb>=0.5 and (ecosite >= 34)	
OCLOW	Other Conifer Lowland	MCL - Conifer Lowland	La	ES 36, 34	Clearcut	Sort Order 4: Ecosite >= 34 or (La+Ce>=0.5 or WG="Ce" or WG="La")	
MXCON	Mixed Conifer	MIX - Mixedwood	Sb	ES 21, 25, 26	Clearcut	Sort Order 5: WG = "Ce" and Ce >= 0.4 and Sb + Sw <= 0.4 or Ecosite = 17 Sort Order 11: (Pr+Pw+Pj+Sb+Sw+Bf +Ce+La) >(Po+Bw+Mh+Uh+Lh) OR (Pr+Pw+Pj+Sb+Sw+Bf +Ce+La) =(Po+Bw+Mh+Uh+Lh) if conifer WG	
SBPRD	Spruce Productive	MCU - Conifer Upland	Sb	ES 20, 21, 26, 31	Clearcut	Sort Order 6: Sb+Sw>=0.7 and Po+Bw<=0.2 and (SC = X, 1, or 2)	
PJPRD	Jack Pine Productive	PJK - Jack Pine	Pj	ES 20, 13	Clearcut	Sort Order 7: Pj>=0.7 and Po+Bw<=0.2 and (SC ="X" or SC = "1" or SC = "2")	
POALL	Poplar All	POP - Poplar	Po	ES 19, 29, 28, 27, 33	Clearcut	Sort Order 8: Po >= 0.7	
BWDOM	Birch Dominated	BWT - White Birch	Bw	ES 19, 29, 28, 27	Clearcut	Sort Order 9: Bw>=0.6 and Po + Bw >= 0.7	
SBMIX	Spruce Mix	MCU - Conifer Upland	Sb	ES 21, 20, 26, 22, 27	Clearcut	Sort Order 10: Pr+Pw+Pj+Sb+Sw+Bf +Ce+La>= 0.5 And Po<= 0.2 and (Sb+Sw+Bf) >= Pj	
PJMIX	Jack Pine Mix	MCU - Conifer Upland	Pj	ES 20, 21, 25	Clearcut	Sort Order 11: Pr+Pw+Pj+Sb+Sw+Bf +Ce+La>= 0.5 And Po<= 0.2 And Pj > (Sb+Sw+Bf)	
MXHWD	Mixed Hardwood	MIX - Mixedwood	Po	ES 19, 29, 21, 28	Clearcut	Sort Order 13: (Po+Bw+Mh+Uh+Lh) >= (Pr+Pw+Pj+Sb+Sw+Bf +Ce+La)	

Table 2b - Plan Term April 1, 1999 to March 31, 2004

Forest Unit Code	Forest Unit Name	Forest Type	Main Working Group	Site Type(s)	Silvicultural System	FRI Parameters & Criteria	Additional Information
Sp1	Spruce Upland	Conifer	Sb	Es 14 Es 20 Es 22 Es 25 Es 26 Es 31	Clearcut	wg=Sb and Site = X, 1, 2 or wg=Sw and Site = all	X, 1,2, were aggregated due to the small amount of site class X and 2. White spruce also included due to small amount of White spruce working group.
Sp3	Spruce Lowland/Shallow	Conifer	Sb	Es 12 Es 34 Es 35 Es 36	Clearcut	wg = Sb or Sw and site = 3,4	Site class 4 is included for tracking purposes as SFMM model input, but not used to calculate managed, available forest area.
Pj2	Pj Productive	Conifer	Pj	Es 13 Es 14 Es 20 Es 25 Es 26 Es 31	Clearcut	wg=Pj and Site = X, 1, 2	X, 1, 2, were aggregated due to the small amount of site class X and 1 and the similarity of stand development, site class 4 included for tracking purposes as SFMM model input, but is not used to calculate managed available forest area.
Pj3	Pj Shallow Soils	Conifer	Pj	Es 12	Clearcut	wg = Pj and site 3, 4	Site Class 4 is included for tracking purpose, but is not used to develop model inputs
Bf1	BF All sites	Conifer	B	Es 21 Es 27 Es 32	Clearcut	wg = Bf	
Po	Po Productive	INTHWD	Po	Es 16 Es 19 Es 23 Es 28 Es 29 Es 33	Clearcut	Wg=Po	Site Class 4 is included for tracking purposes, but is not used to develop model inputs. All site classes are aggregated due to similar stand development.
Bw	Bw all sites	INTHWD	Bw	Es 16 Es 19 Es 23 Es 28 Es 29	Clearcut	wg = Bw	
La	La all sites	Conifer	La	Es 36 Es 37	Clearcut	wg = La	
Pr	Pr all site	Conifer	Pr	Es 11 Es 15 Es 18 Es 24	Clearcut	wg=Pr or Pr>=10% and site = 3,4, or Pw.+20% and site x, 1, 2	Stands containing 10-20% red pine will be managed for Red Pine if the trees are clumped spatially.
NFG	Non-Free-To-Grow					wg="DL"	
IS	Islands						

Table 2c - Plan Term April 1, 1994 to March 31, 1999

Forest Unit Code	Forest Unit Name	Forest Type	Main Working Group	Site Type(s)	Silvicultural System	FRI Parameters & Criteria	Additional Information
BF0	Balsam Fir	Conifer	B		Clearcut		B, Site Class X,1,2,3 AND OC Site Class X, 1, 2, 3 and PFR
BW0	White Birch	Inthwd	Bw		Clearcut		Bw, Site Class X, 1, 2, 3 and OH and PFR
Pj0	Jack Pine	Conifer	Pj		Clearcut		Pj, Pr, Pw, Site Class X, 1, 2, 3 and PFR
Po0	Poplar	Inthwd	Po		Clearcut		Po, Site Class X, 1, 2, 3 and PFR
Sp3	Low productivity spruce	Conifer	Sp		Clearcut		Sb, Sw, Site Class X, 1, and 2
Sp0	Spruce	Conifer	Sp		Clearcut		Sb, Sw, Site Class 3 and PFR

Source: 1994-1999 TMPM Table 4.13
1999-2004 and 2004-2009 FMPM Table FMP-8

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Table 3 - Summary of Planned & Actual Harvest Volumes

MU: Trout Lake Forest

Average Planned Annual Harvest Volumes

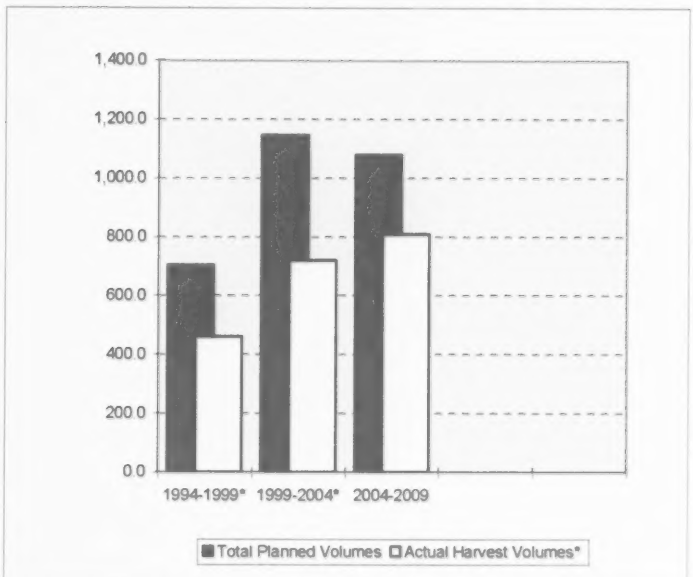
Volumes are Annualized for the indicated 5 year period

Species	Volume in cubic metres		
	Past Plans		Current
	1994-1999	1999-2004	2004-2009
White Pine	-	-	3.3
Red Pine			5,370.3
Jack Pine	246,820	252,515	277,050.1
Black Spruce	356,280	667,572	492,882.6
White Spruce	-	9,766	48,904.6
Balsam Fir	7,660	20,779	27,480.1
Cedar	-	-	2,285.5
Larch	140	451	14,290.5
Poplar	84,380	179,523	177,028.3
White Birch	6,940	13,661	31,591.5
Total Planned Volumes	702,220.0	1,144,266.2	1,076,886.8

Actual Harvest Volumes

Volumes are Annualized for the indicated 5 year period

Species	Volume in cubic metres		
	Past Plans		Current
	1994-1999	1999-2004	*2004-2008
White Pine	-	-	-
Red Pine	-	-	-
Jack Pine	203,900.0	118,790.0	208,581.3
Black Spruce	179,100.0	472,945.0	481,701.5
White Spruce	-	-	-
Balsam Fir	-	16,865.0	12,069.3
Cedar	-	-	-
Larch	-	695.0	1,644.3
Poplar	77,500.0	108,589.7	94,630.6
White Birch	-	49.0	7,998.4
	-	-	
Total Actual Volumes	460,500.0	717,933.7	806,625.3



Source: planned: TMPM Table 4.17.1, 1996 FMPM Table FMP-21, 2004 FMPM FMP-17
actual TMPM Table 4.3.1, 1996 FMPM RPFO-4 and annual reports, 2004 FMPM AR-4
*2004-2009 Actual Harvest Volumes are an average of 4 years 2004- 2008

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Table 4 - Summary of Planned & Actual Depletion Area

Past and Current Plans

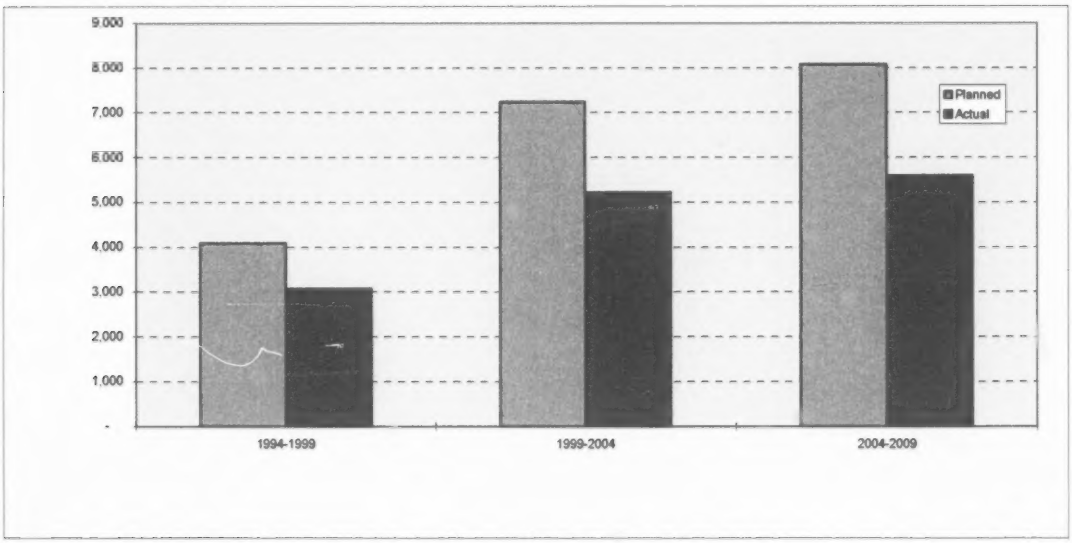
MU: **Trout Lake Forest**

Area is Annualized for the indicated 5 year period

Planned Annual Harvest Area				Actual Depletion Area					
Area in hectares				*Area in hectares*					
	Past Plans		Current	Past Plans				Current	
Plan Term	1994-1999	1999-2004	2004-2009	1994-1999		1999-2004		2004-2009	
Forest Unit				Harvest	Natural**	Harvest	Natural	Harvest	Natural
BWDOM	5	21	3	7		12		3	
MXCON		49	380	-		16		278	0
MXHWD			494			2		455	6
OCLOW		2	6					1	
PJMIX			715					657	3
PJPRD	1,621	683	664	1,454		641	26	643	21
POALL	180	792	309	368		703	55	353	50
PRWMX			-						
SBLOW	74	308	622			152	22	295	3
SBMIX			1,420					917	19
SBPRD	2,199	4,814	3,350	1,243		3,195	586	1,921	63
SHALL		567	107			497	41	64	
Total Area	4,079	7,236	8,070	3,072	-	5,218	730	5,587	166

No natural depletions were recorded for 1994-1999

Planned vs. Actual Harvest Area



Source: planned: TMPM Table 4.15, 1996 FMPM Table FMP-18 and 2004 FMPM FMP-15
actual: TMPM Table 4.1, 1996 FMPM Table RPFO-2 and annual reports; 2004 FMPM AR-1 and AR-6
*2004-2009 Actual Harvest Volumes are an average of 4 years 2004- 2008 calculated from the 2007/08 AR

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MU: Trout Lake Forest

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (Working Group)

Table 5a 1994 FMP tmpa49 and tmpta482

Forest Unit	Age Class	Protection Forest		Production Forest				
				Unavailable		Stage of Management	Available	
		(ha)	(000's m^3)	(ha)	(000's m^3)		(ha)	(000's m^3)
Bf	B&S						421.0	
	1-20					Clearcut	0	0
	21-40						2,332	
	41-60						14,190	
	61-80						3,584	
	81-100						900	
	101-120						529	
	121+						146	
		0.0						
Forest Unit Subtotal		0.0		0	0		22,102	0
Bw	B&S						129.0	
	1-20					Clearcut	0	
	21-40						9	
	41-60						103	
	61-80						449	
	81-100						609	
	101-120						795	
	121+						735	
		16						
Forest Unit Subtotal		16	0	0	0		2,829	0
Pj	B&S						16,920	
	1-20					Clearcut	1,730	
	21-40						62,883	
	41-60						14,691	
	61-80						32,256	
	81-100						42,781	
	101-120						3,825	
	121+						18,044	
		658						
Forest Unit Subtotal		658	0	0	0		193,130	0
Po	B&S						2,181	
	1-20					Clearcut	13	
	21-40						3,752	
	41-60						1,639	
	61-80						7,078	
	81-100						11,907	
	101-120						3,512	
	121+						10,550	
		607						
Forest Unit Subtotal		607	0	0	0		40,632	0
Sb	B&S						56,654	
	1-20					Clearcut	174	
	21-40						69,850	
	41-60						19,336	
	61-80						31,637	
	81-100						57,613	
	101-120						32,992	
	121+						199,275	
		7,535						
Forest Unit Subtotal		7,535	0	0	0		467,531	0
Sw	B&S						41	
	1-20					Clearcut	0	
	21-40						14	
	41-60						0	
	61-80						302	
	81-100						147	
	101-120						126	
	121+						625	
		13						
Forest Unit Subtotal		13	0	0	0		1,255	0

La	B&S					Clearcut	1	
	1-20						0	
	21-40						0	
	41-60						0	
	61-80						5	
	81-100						6	
	101-120						26	
	121+						33	
		165						
Forest Unit Subtotal		165	0	0	0		71	0
TOTAL ALL FOREST UNITS		8,994					727,550	
TOTAL PRODUCTIVE FOREST							736,544	

Major landbase changes include an increase in the protection forest as Ontario Living Legacy Park conservation reserve creation reclassified 85,751 ha as parks and the inclusion of the Lac Seul shoreline (24,989 ha.) as managed crown land. Other changes such as increase in patent land, federal land reclassification and boundary shifts were minor in nature.

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MU: Trout Lake Forest

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT

Table 5b 1999 FMP FMP-9

Forest Unit	Age Class	Protection Forest		Production Forest				
				Unavailable		Stage of Management	Available	
		(ha)	(000's m^3)	(ha)	(000's m^3)		(ha)	(000's m^3)
Sp1	1-20			10	0		3,387	0
	21-40			169	2,078		81,569	1,002,882
	41-60			52	2,582		12,397	615,618
	61-80			99	10,468		17,969	1,899,935
	81-100			353	56,828		62,006	9,982,135
	101-120			204	32,557		21,963	3,505,105
	121+			570	94,234		68,339	11,297,993
	141-160			600	88,139		68,724.0	10,095,492
	161-180			277	38,341		37,364.0	5,171,749
	181-200			43	5,634		7,874.0	1,031,632
	201+			2	292		548.0	80,008
	Forest Unit Subtotal			2,379	331,153		382,140	44,682,549
SP3	1-20	0		0	0		38	0
	21-40	0		28	39		7,587	10,616
	41-60	130		1	6		2,270	13,700
	61-80	250		5	7		1,979	2,800
	81-100	1,102		7	207		3,512	104,241
	101-120	684		5	323		1,799	116,463
	121-140	2,048		30	2,565		8,077	693,015
	141-160	1,465		31	2,836		7,632	701,024
	161-180	1,415		26	2,348		5,369	487,233
	181-200	188		3	264		597	52,724
	201+	4		0	0		143	13,000
	Forest Unit Subtotal	7,286	0	136	8,595		39,003	2,194,816
Pj2	1-20			35	0		15,966	0
	21-40			172	9,760		50,269	2,862,239
	41-60			11	995		8,995	814,647
	61-80			13	2,013		14,035	2,175,468
	81-100			78	14,887		20,406	3,909,486
	101-120			17	3,486		2,576	531,653
	121-140			84	15,748		7,456	1,413,566
	141-160			46	8,574		3,651	689,105
	161-180			5	950		1,035	197,539
	181-200			2	378		103	19,843
	201+			0	0		0	0
	Forest Unit Subtotal	0	0	463	56,791		124,492	12,613,546
Pj3	1-20			5	0		1,576	0
	21-40	239		61	1,338		17,382	382,737
	41-60	55		4	192		5,563	267,900
	61-80	80		31	3,201		15,858	1,640,894
	81-100	289		69	10,401		23,264	3,517,199
	101-120			20	3,016		3,236	490,938
	121-140	92		10	1,472		2,375	351,138
	141-160	10		3	399		345	46,334
	161-180	8		0	0		36	4,140
	181-200			0	0		0	0
	201+			0	0		0	0
	Forest Unit Subtotal	773	0	203	20,019		69,635	6,701,280
Bf1	1-20			0	0		0	0
	21-40			5	52		688	7,210
	41-60			122	6,862		8,793	501,400
	61-80			129	9,908		6,943	543,200
	81-100			36	4,112		1,643	191,800
	101-120			16	2,004		348	45,600

	121-140			7	756		281	31,100
	141-160			3	283		32	3,300
	161-180			0	0		0	0
	181-200			0	0		0	0
	201+			0	0		0	0
	Forest Unit Subtotal	0	0	318	23,977		18,728	1,323,610
Po1	1-20			1	0		961	0
	21-40			35	1,339		3,290	127,175
	41-60	159		11	672		1,378	84,861
	61-80	51		20	3,611		3,674	666,866
	81-100	223		226	50,368		11,362	2,582,606
	101-120	107		50	10,959		4,213	934,405
	121-140	14		213	39,008		6,139	1,163,270
	141-160	25		113	21,838		3,543	706,558
	161-180			10	1,267		648	83,400
	181-200			3	482		94	15,600
	201+			0	0		0	0
	Forest Unit Subtotal	579	0	682	129,544		35,302	6,364,741
Bw1	1-20			0	0		94	0
	21-40			0	0		143	1,119
	41-60			0	0		79	3,600
	61-80	14		3	408		382	52,300
	81-100			21	2,693		516	68,872
	101-120			6	510		326	28,200
	121-140			8	840		786	83,395
	141-160			7	788		355	40,750
	161-180			1	105		63	6,700
	181-200			0	0		0	0
	201+			0	0		0	0
	Forest Unit Subtotal	14	0	46	5,344		2,744	284,936
							0	0
Pr1	1-20		0	0	0		0	0
	21-40		0	0	0		0	0
	41-60		0	0	0		0	0
	61-80		0	0	0		0	0
	81-100		0	0	0		0	0
	101-120		0	0	0		0	0
	121-140		0	0	0		0	0
	141-160			0	0		0	0
	161-180			0	0		0	0
	181-200			0	0		0	0
	201+			0	0		0	0
	Forest Unit Subtotal	0	0	0	0		0	0
La1	1-20			0	0		0	0
	21-40			0	0		0	0
	41-60			0	0		8	1,133
	61-80			0	0		0	3,700
	81-100			0	0		24	0
	101-120			0	0		0	0
	121-140	9		0	0		33	0
	141-160			0	0		0	0
	161-180	165		0	0		0	0
	181-200			0	0		0	0
	201+			0	0		0	0
	Forest Unit Subtotal	174	0	0	0		65	4,833
NOT FREE GROWING				24,370				
	1-20			27,819				
	21-40			4,900				
	Forest Unit Subtotal			57,089				
	ISLANDS	2						
TOTAL ALL FOREST UNITS		**8,828**	**0**	**61,316**	**575,423**		**672,109**	**74,170,311**
TOTAL PRODUCTIVE FOREST							**733,425**	

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT

Table 5c 2004 FMP FMP-9

Forest Unit	Age Class	Protection Forest		Production Forest				
				Unavailable		Stage of Management	Available	
		(ha)	(000's m^3)	(ha)	(000's m^3)		(ha)	(000's m^3)
BWDOM	B&S		0	9.4	0		182.1	0
	1-20		0	0.0	0	clearcut	65.0	163
	21-40	4.2	102	14.7	358	clearcut	208.0	5,070
	41-60	32.2	2,190	112.3	7,636	clearcut	797.0	54,196
	61-80	7.0	601	73.9	6,346	clearcut	825.0	70,847
	81-100		0	25.4	2,499	clearcut	186.0	18,298
	101-120		0	0.9	84	clearcut	34.0	3,171
	121-140		0	0.4	36	clearcut	1.0	89
	141+		0	0.0	0	clearcut	0.0	0
	Forest Unit Subtotal	43.4	2,893	237.0	16,959		2,298.1	151,833
MXCON	B&S						10.5	0
	1-20		0	35.2	70	clearcut	1,367.0	2,734
	21-40		0	130.2	3,776	clearcut	2,358.0	68,382
	41-60	3.4	245	104.5	7,524	clearcut	2,389.0	172,008
	61-80	86.9	9,928	289.7	33,098	clearcut	2,509.0	286,653
	81-100	57.4	8,079	612.6	86,223	clearcut	5,705.0	802,979
	101-120	13.8	1,730	297.6	37,312	clearcut	2,034.0	255,013
	121-140	7.5	820	369.9	40,458	clearcut	2,449.0	267,859
	141+		0	207.9	15,447	clearcut	1,250.0	92,875
	Forest Unit Subtotal	169.0	20,803	2,047.6	223,908		20,071.5	1,948,503
MXHWD	B&S						0.0	0
	1-20		0	176.6	706	clearcut	1,503.0	6,012
	21-40	14.1	585	190.4	7,902	clearcut	4,715.0	195,673
	41-60	74.2	7,298	527.9	51,919	clearcut	5,960.0	586,166
	61-80	77.1	12,118	803.9	126,353	clearcut	5,929.0	931,891
	81-100	92.6	17,045	1,116.6	205,538	clearcut	8,232.0	1,515,305
	101-120	17.8	2,876	285.5	46,130	clearcut	1,705.0	275,485
	121-140	14.8	2,077	105.0	14,734	clearcut	787.0	110,436
	141+		0	133.2	11,774	clearcut	826.0	73,013
	Forest Unit Subtotal	290.6	41,999	3,339.1	465,056		29,657.0	3,693,981
OCLOW	B&S						220.9	0
	1-20	0.2	0	242.5	0	clearcut	782.0	0
	21-40	19.4	160	239.1	1,973	clearcut	573.0	4,727
	41-60	44.4	464	227.7	2,379	clearcut	1,651.0	17,253
	61-80	118.4	4,043	64.3	2,196	clearcut	511.0	17,451
	81-100	112.9	6,969	102.4	6,321	clearcut	629.0	38,825
	101-120	245.5	17,786	74.0	5,361	clearcut	531.0	38,471
	121-140	289.2	19,160	67.5	4,472	clearcut	427.0	28,289
	141+	13.3	872	102.0	6,686	clearcut	630.0	41,293
	Forest Unit Subtotal	843.3	49,454	1,119.5	29,387		5,954.9	186,309
PJMIX	B&S						0.0	0
	1-20		0	253.3	1,551	clearcut	6,473.0	39,647
	21-40	55.4	2,716	295.7	14,497	clearcut	10,635.0	521,381
	41-60	157.4	18,168	790.9	91,290	clearcut	19,188.0	2,214,775
	61-80	70.2	11,569	448.9	73,979	clearcut	9,603.0	1,582,574
	81-100	26.6	4,694	792.3	139,801	clearcut	16,405.0	2,894,662
	101-120	8.7	1,355	96.2	14,981	clearcut	1,661.0	258,659
	121-140		0	61.4	6,888	clearcut	1,039.0	116,550
	141+		0	15.9	1,008	clearcut	223.0	14,142
	Forest Unit Subtotal	318.3	38,501	2,754.6	343,994		65,227.0	7,642,390
PJPRD	B&S						4,218.5	0
	1-20		0	1,263.8	11,848	clearcut	26,156.0	245,213
	21-40		0	674.3	29,686	clearcut	16,850.0	741,821
	41-60	17.8	2,232	844.0	105,817	clearcut	26,428.0	3,313,411
	61-80	11.2	2,181	293.1	57,067	clearcut	8,168.0	1,590,310
	81-100		0	638.2	133,958	clearcut	15,269.0	3,204,963
	101-120		0	22.8	3,552	clearcut	1,158.0	180,387
	121-140		0	25.2	2,555	clearcut	734.0	74,409
	141+		0	2.2	153	clearcut	136.0	9,438

	Forest Unit Subtotal	29.0	4,412	3,763.6	344,634		99,117.5	9,359,952
	B&S		0	0.0	0		2,000.1	0
POALL	1-20	1.2	9	255.8	2,014	clearcut	2,720.0	21,420
	21-40	32.5	2,368	20.0	1,458	clearcut	1,006.0	73,312
	41-60		0	67.5	10,250	clearcut	1,185.0	179,942
	61-80	5.3	1,040	135.5	26,578	clearcut	1,937.0	379,943
	81-100	75.9	13,349	193.4	34,014	clearcut	4,770.0	838,924
	101-120	5.5	691	35.1	4,408	clearcut	805.0	101,088
	121-140		0	14.4	1,188	clearcut	291.0	24,008
	141+		0	23.8	1,482	clearcut	272.0	16,932
	Forest Unit Subtotal	120.4	17,457	745.5	81,392		14,986.1	1,635,568
	B&S						0.0	0
PRWMX	1-20		0	0.0	0	clearcut	143.0	161
	21-40		0	0.0	0	clearcut	0.0	0
	41-60		0	0.0	0	clearcut	0.0	0
	61-80		0	0.0	0	clearcut	0.0	0
	81-100		0	0.0	0	clearcut	0.0	0
	101-120		0	0.0	0	clearcut	0.0	0
	121-140		0	0.0	0	clearcut	0.0	0
	141+		0	0.0	0	clearcut	2.0	312
	Forest Unit Subtotal	0.0	0	0.0	0		145.0	473
	B&S						7,719.8	0
SBLOW	1-20	37.6	0	371.6	0	clearcut	5,482.0	0
	21-40	489.4	1,958	489.2	1,957	clearcut	9,424.0	37,696
	41-60	2,764.9	51,151	397.2	7,348	clearcut	6,360.0	117,660
	61-80	1,505.4	67,931	671.2	30,288	clearcut	9,910.0	447,189
	81-100	2,428.5	217,715	1,289.1	115,568	clearcut	17,874.0	1,602,404
	101-120	1,491.8	188,862	1,450.7	183,659	clearcut	20,996.0	2,658,094
	121-140	2,103.9	224,328	1,876.1	200,039	clearcut	25,283.0	2,695,800
	141+	578.3	48,712	2,214.7	186,552	clearcut	25,134.0	2,117,121
	Forest Unit Subtotal	11,399.8	800,657	8,759.8	725,410		128,182.8	9,675,963
	B&S						603.6	0
SBMIX	1-20	5.4	29	825.1	4,435	clearcut	7,961.0	42,790
	21-40	66.7	2,443	625.2	22,898	clearcut	8,926.0	326,915
	41-60	236.1	18,109	1,347.0	103,315	clearcut	12,623.0	968,184
	61-80	236.0	29,311	2,202.7	273,575	clearcut	12,791.0	1,588,642
	81-100	170.3	23,672	2,343.1	325,691	clearcut	22,285.0	3,097,615
	101-120	65.7	8,984	1,042.8	142,603	clearcut	10,513.0	1,437,653
	121-140	186.5	23,755	1,334.9	170,033	clearcut	11,241.0	1,431,822
	141+	54.0	5,466	827.0	83,713	clearcut	7,571.0	766,374
	Forest Unit Subtotal	1,020.7	111,770	10,547.8	1,126,263		94,514.6	9,659,996
	B&S						9,675.9	0
SBPRD	1-20	7.0	50	1,193.8	8,506	clearcut	25,719.0	183,248
	21-40	6.3	124	459.9	9,037	clearcut	9,954.0	195,596
	41-60	22.7	1,311	825.8	47,690	clearcut	9,063.0	523,388
	61-80	94.6	9,224	1,766.6	172,244	clearcut	18,304.0	1,784,640
	81-100	183.3	22,821	2,938.2	365,806	clearcut	47,471.0	5,910,140
	101-120	71.8	8,616	2,016.2	241,944	clearcut	28,271.0	3,392,520
	121-140	88.8	10,656	2,404.6	288,552	clearcut	36,106.0	4,332,720
	141+	53.6	5,489	1,519.0	155,546	clearcut	20,746.0	2,124,390
	Forest Unit Subtotal	528.1	58,290	13,124.1	1,289,324		205,309.9	18,446,642
	B&S						1,129.9	0
SHALL	1-20	8.9	50	55.1	310	clearcut	2,549.0	14,338
	21-40	434.5	14,882	169.1	5,792	clearcut	5,091.0	174,367
	41-60	426.0	31,034	268.6	19,568	clearcut	9,074.0	661,041
	61-80	36.8	3,514	89.5	8,547	clearcut	1,643.0	156,907
	81-100	20.4	1,814	149.2	13,264	clearcut	3,065.0	272,479
	101-120	21.6	1,488	66.1	4,553	clearcut	895.0	61,643
	121-140		0	57.5	3,058	clearcut	1,634.0	86,888
	141+		0	17.3	350	clearcut	505.0	10,211
	Forest Unit Subtotal	948.2	52,781	872.4	55,440		25,585.9	1,437,873
TOTAL ALL FOREST UNITS		**15,710.8**	**1,199,017**	**47,311.0**	**4,701,768**		**691,050.3**	**63,839,483**
TOTAL PRODUCTIVE FOREST							**754,072.1**	**69,740,268**

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MU: Trout Lake Forest

Table 6 - SUMMARY REPORT OF RENEWAL, TENDING AND PROTECTION OPERATIONS

	Area Summary of all Forest Units (ha)					
	1994 - 1999		1999-2004		2004-2009	
	Planned	Actual	Planned	Actual	Planned	Actual
Renewal						
Regeneration						
Uneven-Aged Management						
Selection Cut - Harvest						
Total Uneven-Aged Management					0	
Even-Aged Management						
Natural Regeneration						
Clearcut		1632	4170	2607.4	9,781	2929
Claag			1700	423.3	1,280	67
Strip Cut	510		1000		447	
Seed Tree Cut	1188		400	16	1,470	
Uniform Shelterwood Seed Cut					0	
Subtotal Natural	1698	1632	7270	3046.7	12,984	2,996
Artificial Regeneration						
Planting	6450	4506	17570	17977.4	15,575	8260
Seeding direct	6620	2813	6140	1406	4,277	3880
with site preparation		37	0	1909		
Scarification	2207	155	1330	245	781	
Subtotal Artificial	15,277	7,511	25,040	21,537	20,633	12,140
Total Even-Aged Management	16,975	9,143	32,310	24,584	33,617	15,136
Total Regeneration	16,975	9,143	32,310	24,584	33,617	15,136
Site Preparation						
Mechanical	15000	8678	21670	18259	11,659	11139.6
Chemical			400		600	66.3
Prescribed Burn			0	5681	937	528.3
Total Site Preparation	15,000	8,678	22,070	23,940	13,196	11,734
Tending						
Cleaning						
manual					110	
chemical - ground		131			106	
- aerial	2207	1646	1400	4928.6	10,574	1515.3
mechanical					60	
prescribed burn						
Spacing, pre-commercial thinning, improvement cutting						
even-aged		922	3000	485	493	
uneven-aged					0	
Cultivation					0	
Total Tending	2,207	2,699	4,400	5,414	11,343	1,515
Protection (Insect Pest Control)						
accelerated harvest						
salvage						
manual protection						
ground insecticide						
aerial insecticide						
Total Protection						

Source:

planned: TMPM Table 4.19, FMPM Table FMP-25, 2004 FMPM Table FMP-21

actual: TMPM Table 4.19, 1996 FMPM Table RPFO-7 and annual reports, 2004 FMPM AR-7

* All numbers are in total activities per term, Current term is total to 2007/2008 AR (4 years)

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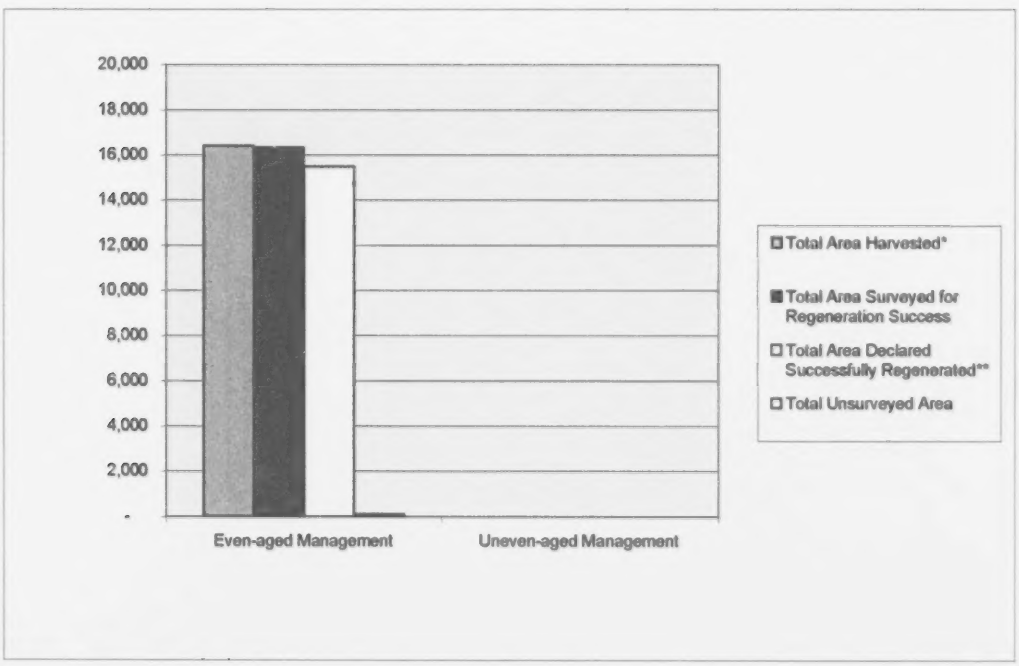
Table 7 - Harvested Area Successfully Regenerated - Summary of All Forest Units

MU: Trout Lake Forest

1994-1999	*AREA IN HECTARES (All Forest Units Combined)*	*AREA IN HECTARES (All Forest Units Combined)*
	Even-aged Management	**Uneven-aged Management**
*Total Area Harvested**	16,415	-
Total Area Surveyed for Regeneration Success	16,330	-
Total Unsurveyed Area	85	-
*Total Area Declared Successfully Regenerated***	15,496	-
Total Area Surveyed Not Successfully Regenerated		-
NSR	805	-
B&S	-	-
Not Available for Regen. (eg. Roads & landings)	84	-
Other	-	-
Percent of Area Surveyed Declared Successfully Regenerated	94.9%	



Source:
total area harvested: * As recorded in GIS
survey results:**as recorded in GIS majority surveyed in 2008 not yet confirmed by MNR